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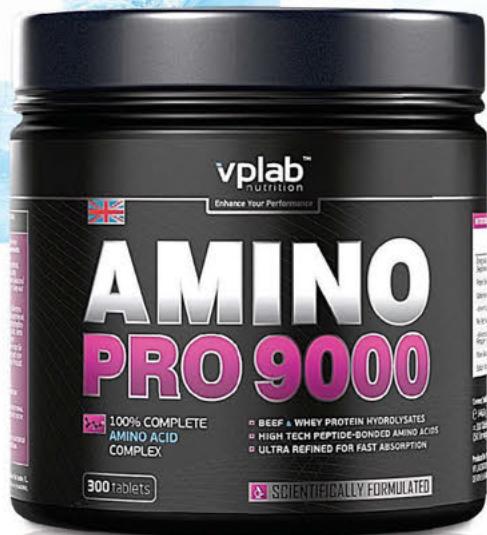
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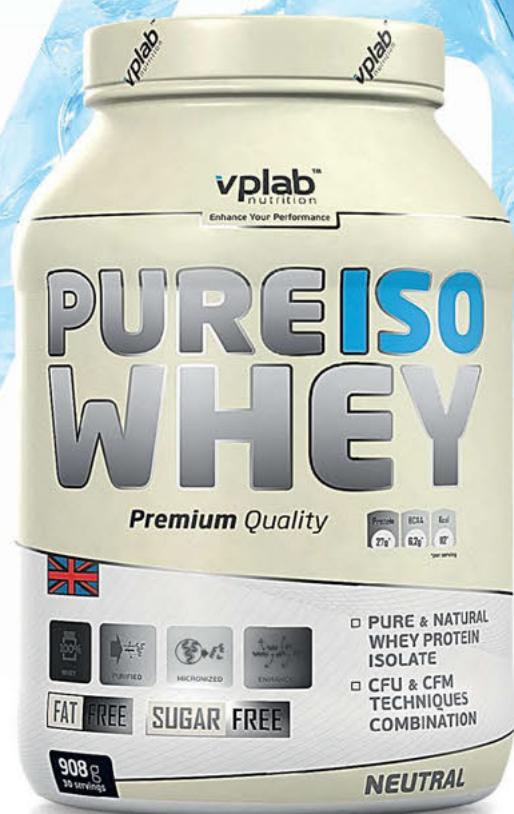
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Features

62 TRAINING WITH ARNOLD

Our editor in chief visited Arnold while he was filming *Terminator Genisys* and trained with the Governor himself.

70 THE WARRIOR WORKOUT

Build a leaner, stronger body with this five-week, all-encompassing kettlebell plan.

76 NO PAIN, STILL GAIN

A programme that builds muscle without punishing your joints.

88 UPSCALE DINING

Fish is one of the purest protein sources on the planet, which is why you should add more of it to your diet. Here are the recipes you need.

96 POWERBUILDING 2.0

Get the strength of a powerlifter and the physique of a bodybuilder.

106 OLYMPIC LIFTING

British Weightlifting's elite coaches and athletes show how to get powerful.

Sections

16 EDGE

Train like Mark Wahlberg; why bikini model Ana Cheri is really a tomboy; how to treat (and prevent) shin splints; the best gear of the season.

34 TRAIN

Why you should be doing a shoulder press with your snatch; build grip strength like a veteran powerlifter; sculpt abs with a T-pushup; rating a reader's calf workout; how a media mogul stays fit.

50 EAT

Why bodybuilders are chugging breast milk; chicken kebabs from chef Robert Irvine; five ways to prepare avocados.

116 SUPPS

A scientific look at the best products in the world of sports supplements.

124 HER'S

A guide to help female athletes eat clean, shed fat, and build muscle.

146 EXPERT

Will Kane on competing with CrossFit's elite; James Collins on the latest pre-workout primer; advice from Britain's best-built student and bikini pro Michelle Brannan on training for aesthetics.

In Every Issue

10 Arnold's Letter

14 Editor's Letter

158 Hot Bod

160 Last Set

BACK IN BLACK

We got an exclusive look at how Arnold trained for the first of three new *Terminator* films.



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The Master Plan

Short-term goals lead to long-term success and happiness.

Aside from hard work and visualization, what does it really take to succeed?

—CURTIS AUETTA,
VIA FACEBOOK

A: **YOU NEED TO** develop a master plan. I didn't start out in my teens telling myself I was going to star in the *Terminator* movies. But I did know that I wanted to be a movie star, a businessman, and a political leader. Of course, with my humble background, people thought that was nuts.

So I asked myself, "What's one thing I can do now that I'm good at that can serve those goals?" no matter how indirectly. The answer seemed even stranger than my goals: bodybuilding. Still, I reasoned that having muscles would give me confidence, get me noticed, and pave the way for me to come to America, where I could make it all come true.

Once I'd made it in bodybuilding, breaking into movies playing heroic roles became easier. I was also right in thinking that after playing a hero on-screen for so long and building a following, I had the power to help people on a grand scale in real life, getting elected as governor.

In July, *Terminator Genisys* came out, proving that my plan is still



LASER FOCUS
Arnold never took his eyes off of what he wanted, no matter how many people doubted him.

working. So remember this: You don't have to know exactly how you'll get what you want in life, but you do need to ask yourself what you can do today that can help you take the next step tomorrow and beyond.

Yours in Iron,

Arnold Schwarzenegger

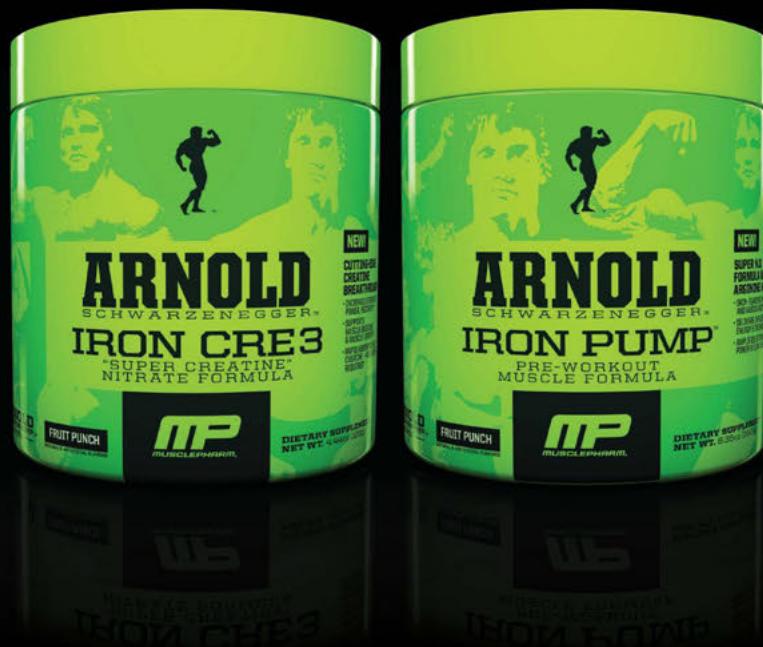


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Keep Moving

Arnold's life has moved in only one direction: forward.

ONCE AGAIN, I'm proud to have our executive editor, Arnold Schwarzenegger, on the cover of *Muscle & Fitness*. Each year we like to honor "the Austrian Oak" with a cover as a way of recognizing his enormous impact on the dual worlds of fitness and bodybuilding, and also because he remains eternally popular with you, our reader. Even at 67, Arnold has an appeal with the younger generations that remains strong, and with the upcoming release of *Terminator Genisys*, the fifth film in the *Terminator* franchise, his star is sure to shine even brighter.

If Arnold is known for a single defining character trait, it is his drive to continually move forward. Never one to rest on his laurels, he is always expanding into new realms—from bodybuilding to acting, from acting to politics, from politics to environmental activism, and of course, a new phase in his acting career. Being able to change, to adapt, to expand, is what keeps you vital, and *Muscle & Fitness* is no different from Arnold in this regard.

If you're a longtime reader of this magazine, grab a copy from four years ago and note the substantial difference between that issue and this one. While in both instances we cover serious training and nutrition, today's iteration of *M&F* shows a huge advancement, not just in the magazine's look and feel but in its content as well.

Today, the definition of fitness is as broad as it's ever been and encompasses a wide range of disciplines, including CrossFit, obstacle races, and even parkour. While we have always, and will always, keep weight training at our core, we couldn't rightly consider ourselves the leading publication for serious fitness enthusiasts if we didn't also embrace these burgeoning disciplines. In the end, we are able to bring you a richer, more vibrant magazine for our coverage of such training trends, all while presenting you with the most cutting-edge gym-based routines, designed to get you as big, strong, and lean as possible in the shortest amount of time.

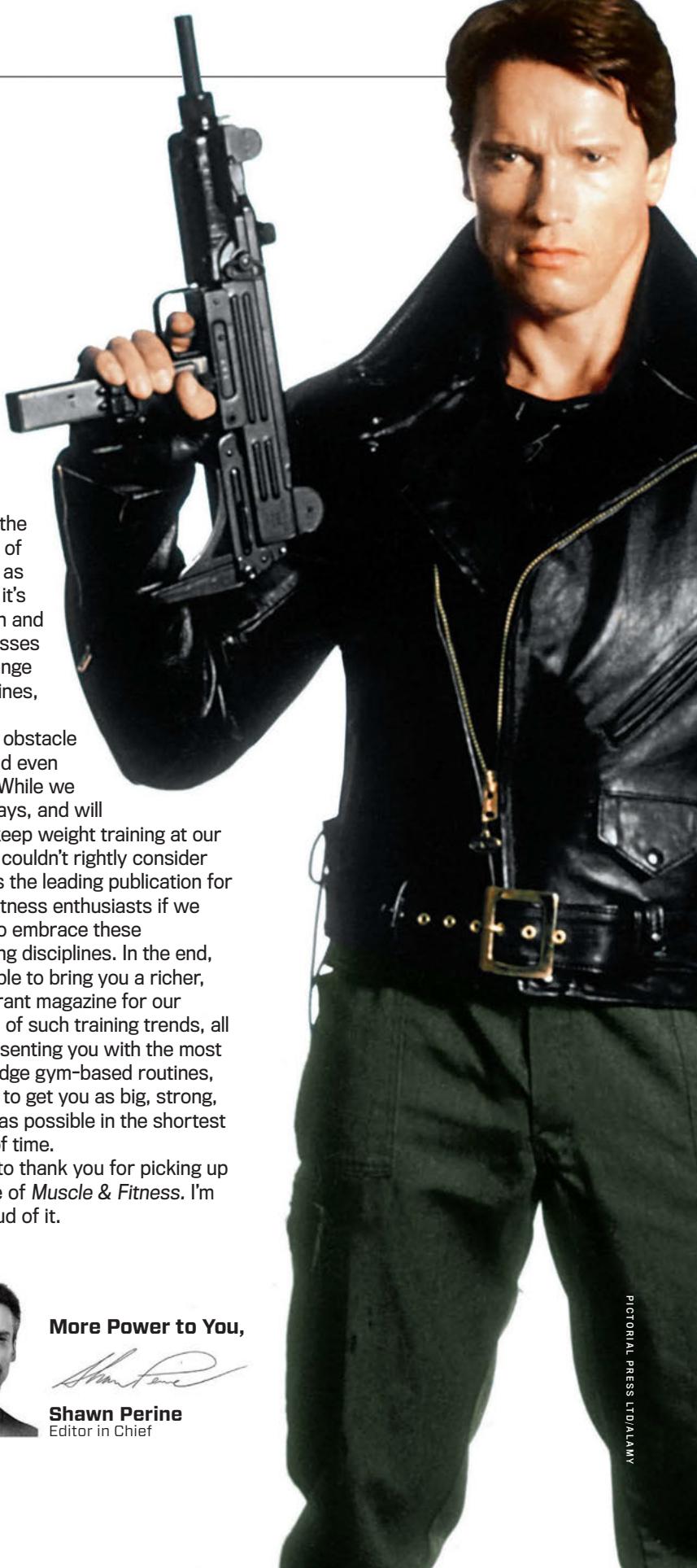
I'd like to thank you for picking up this issue of *Muscle & Fitness*. I'm very proud of it.



More Power to You,

A handwritten signature of Shawn Perine's name.

Shawn Perine
Editor in Chief



ADD GREEN TO YOUR FITNESS NUTRITION

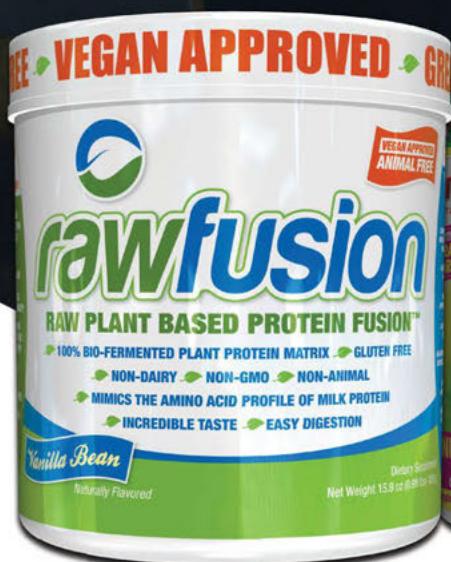
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HE'S THE STAR OF FOUR

movies this year, including two out this summer -- *Entourage* and *Ted 2*. In other words, it's just a normal year for Mark Wahlberg. But the only thing the prolific actor, producer, and *M&F* cover guy (May 2013) takes as seriously as his craft is his training. Previously, we documented Wahlberg's road to getting as big as possible for *Pain*

& Gain. To maintain a leaner, but still muscular physique, Wahlberg's training has since evolved, incorporating more body weight and suspension trainer work. That's not to say his training sessions are easier these days. (See box at right.) By keeping rest periods around 30 seconds between sets, Wahlberg maintains a high intensity to get a solid pump while burning fat.

MARK WAHLBERG'S WORKOUT

The following workout is sampled from the strength phase of Mark Wahlberg's training program, performed in preparation for *Transformers: Age of Extinction*. This workout is done after a full-body warmup and core workout.

Program provided by Brian Nguyen of BRIK Fitness in Redondo Beach, California. (brikfitness.com)

DIRECTIONS: Perform exercises marked with letters as a circuit.

EXERCISE	SETS	REPS
1A) Chinup	3	3-6
1B) DB Incline Press ¹	3	5
1C) TRX Figure-4	2-3	30
Stretch ²		sec. ea.
2A) KB Threaded Lunge ³	3	8 ea.
2B) TRX Atomic Pushup ⁴	3	8
2C) TRX Inverted Row	3	12
2D) TRX SHELC ⁵	3	8
3) Hanging Straight Leg Raise	2-3	8-10

1 Perform 5 reps on each set, then take the third and final set to failure.

2 Hold onto the handles of a TRX, stand on one leg, cross your free leg over your opposite knee. Squat low.

3 Pass the kettlebell underneath your front leg as you lunge.

4 Get into a pushup position with both feet in the cradles of a TRX. Perform a pushup, moving into a pike position with your hips pointed to the ceiling at the top of the pushup.

5 SHELC is an acronym for Supine Hip Extension Leg Curl. Lie on your back with both heels in the cradles of a TRX. Extend your hips and raise your body off the floor, keeping your shoulders on the ground. Curl your feet toward your butt.

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Being Franco

A two-time Mr. O, the "Sardinian Strongman" **FRANCO COLUMBU** stars in the upcoming film *One More Round*.

BY MATT TUTHILL

M&F: Your character in *One More Round* is a boxing trainer. Did you find yourself thinking back to your own days as a boxer?

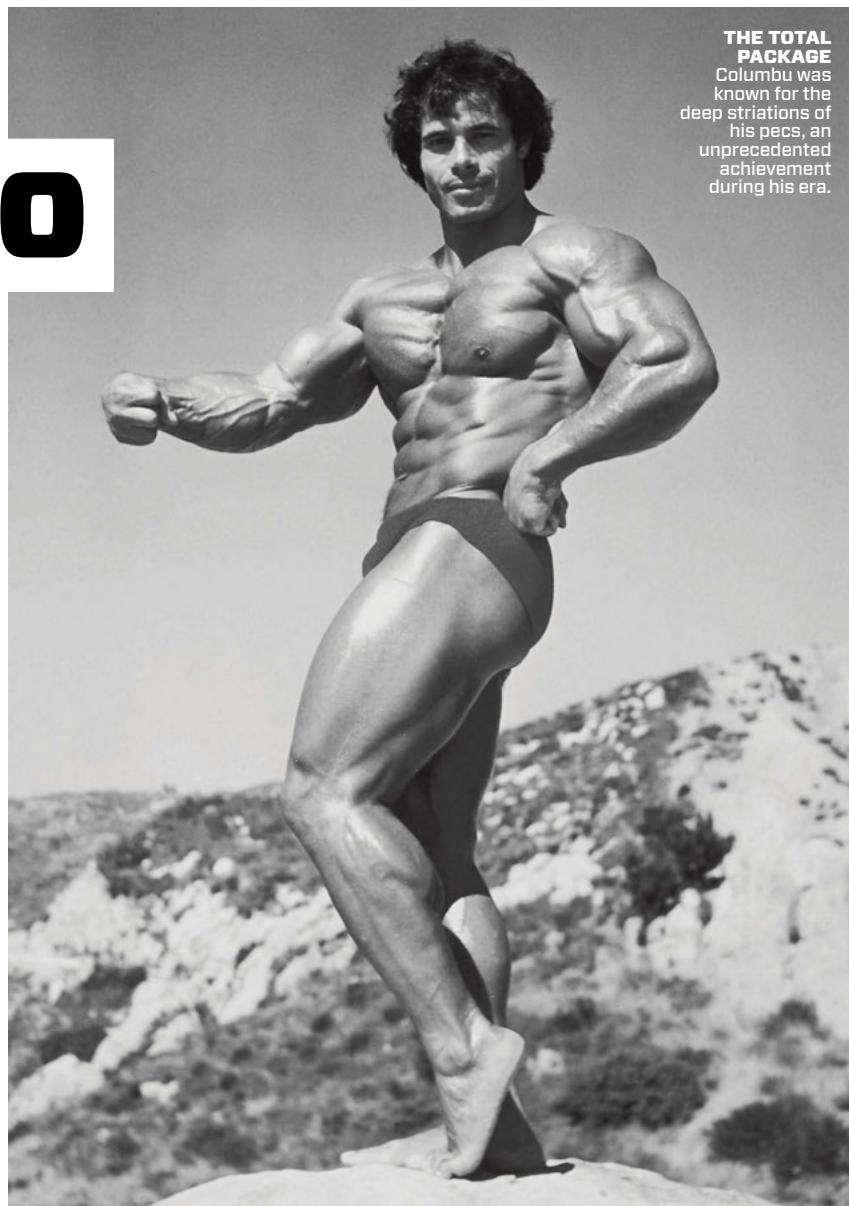
FC: Yes, I ad libbed most of the dialogue from old things that I thought about when I trained. It worked out to be very funny at a few points; when he gets stood up in the corner of the ring, he's getting hit really hard. I remembered when I was boxing and that happened and the coach would say, "You're doing so good." I'd think, "How can I be doing so good if I'm dizzy?"

You've done both, so which one is tougher: boxing or bodybuilding?

I started as a boxer, and I did well. One time, I won by a knockout in Sardinia very quickly in the first round, but when I got home I had a black eye and my jaw hurt. I didn't even remember the opponent hitting me, and I was in pain all day. That is when you have to make a choice: either you put up with that kind of pain, or you do a sport that is safer, like bodybuilding or powerlifting. If you cannot lift the weight, you just drop it on the floor. Boxing is a great sport, but it's really, really tough.

What's one thing you think young guys getting into bodybuilding don't understand?

It's easy to get big. There are lots and lots of guys who get big. A lot of guys have one amazing body part. But to



have proportion and not just one incredible body part, that's hard. For me, first I was known for the chest, then I trained for a few more years and I was known for my lats. It took a while for the whole thing to come together.

What is your training like today?

When you're done with competition, you realize that you trained to win, not to be healthy. Today I'm focused on balancing everything to prevent pain and injuries.

THE TOTAL PACKAGE
Columbu was known for the deep striations of his pecs, an unprecedented achievement during his era.

A lot of older guys move on to mostly using machines. Have you done that?

No. I use machines very little. Leg extensions and leg curls are good, and I like cables, but I try to stay away from machines where you sit. The joints are not perfect. They move around in different directions, so you want to try to keep it at least 50% free weights.

Can you pinpoint your hardest workout ever?

Before a Mr. Olympia, I used to train for



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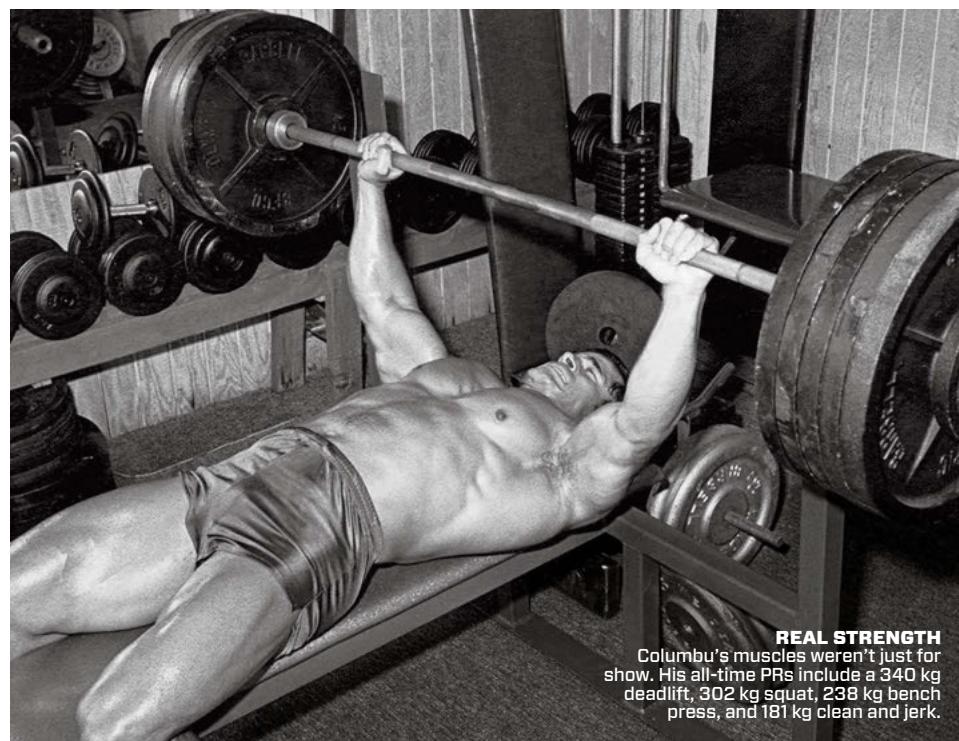
two hours in the morning, and then I'd train another half hour to an hour in the evening. At one point I wasn't getting enough definition, about 10 days before the Mr. Olympia. So I went to the gym, and I trained so hard in the morning, and then I went and committed myself to another two hours at night. I did look better, but I could barely walk. I was so sore that I couldn't go to the gym for two days.

You came up without all the supplements we have today, so what are your thoughts on products that are on the market now?

You have to think almost like a training program. When you start, you want to start with the basic exercises. If it's your chest, then there are five basic exercises you really need. Start with the best one you need the most, and then move from there. If the bench is best, then the incline bench is second best, and so on. The same applies to vitamins and minerals. Which are the most important ones for you? Vitamin D is important, but if you live in Florida and get a lot of sun, maybe it's not important for you. As a chiropractor, I tell all my patients to take omega-3s. It's good for everybody because it helps your joints and your heart. Ultimately, you have to pay attention to your body and determine what you need.

Most people assume because of Pumping Iron that Arnold was your best training partner, but was he really?

Yes. Absolutely. One time we



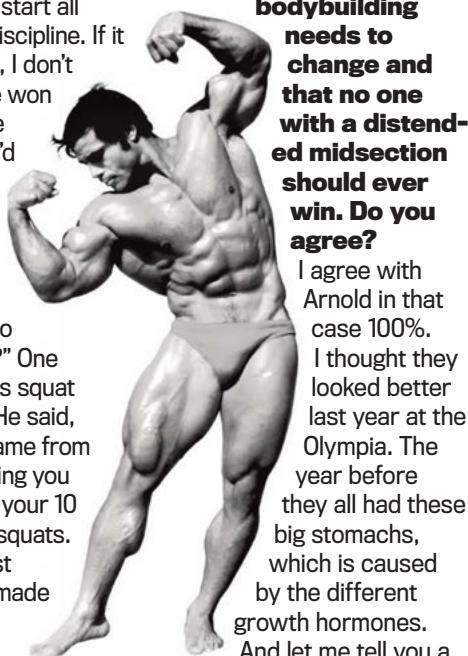
REAL STRENGTH

Columbu's muscles weren't just for show. His all-time PRs include a 340 kg deadlift, 302 kg squat, 238 kg bench press, and 181 kg clean and jerk.

were doing squats—sets of 10 with 405 pounds. He walked away after his set to get water, and I was tired, so I did eight. He comes back and says, "Hey, Franco, I saw you in the mirror, and you did only eight. Do the other two, and start all over." He had discipline. If it weren't for him, I don't know if I'd have won Mr. Olympia. He wouldn't stop. I'd say, "I don't feel like doing much," and he'd say, "Just do your set. What are you so worried about?" One time I said, "This squat feels like hell." He said, "People who came from Italy are watching you at the door. Do your 10 reps." I did my squats. He was the best motivator and made me train even when I didn't

want to. To me, it was torture, but I felt so good after training with him.

In his Sunday seminar at the Arnold Sports Festival, Arnold said that the judging in bodybuilding needs to change and that no one with a distended midsection should ever win. Do you agree?



I agree with Arnold in that case 100%. I thought they looked better last year at the Olympia. The year before they all had these big stomachs, which is caused by the different growth hormones. And let me tell you a couple of things. Number 1: Bodybuilding is a sport, but it's also an art. You train hard and you show the muscles, yes, but the other thing is posing. If you look on YouTube you can see my videos when I was competing for the Mr. Olympia. I was the first one to ever use classical music in the posing. Today there is a lot of heavy metal music and screaming. Then they walk on stage dancing and moving around and lifting their hands, saying for the crowd to give them applause. As a competitor, don't want to demand the applause; I want to show how good I am, then be applauded. What is this dancing around like an idiot? That's not part of bodybuilding, in my opinion. The music should be serious music, not this screaming and making the sport into a cartoon.

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...was born in Orange County, California

...can't get enough of leg day at the gym

...listens to hardcore rap

...craves cereal and maple-bacon doughnuts

...hates it when guys wear cologne to the gym

...would love to be an interior designer

...grew up with four brothers—playing football and basketball was a given

...deadlifts on a regular basis. Her max so far: 93 kilograms

...feels sexiest just being around her house in panties and a bra

...is afraid of open water, yet swam with sharks in the Great Barrier Reef

...skateboarded everywhere before she could drive

...takes bubble baths with



ANA CHERI ON TOP



fizzy bath bombs

...surprised some schoolkids and their parents when their field trip interrupted her risqué beach photo shoot

...watches the television show *Agents of S.H.I.E.L.D.*; her favorite superhero is Thor

...once had a fan propose marriage while his mom videotaped it

...enjoys travelling, and her favourite destination is Byron Bay, Australia

...is in the process of opening her own gym

...loves *The Terminator* but really fell in love with Schwarzenegger when she saw *Kindergarten Cop*

The gorgeously stunning **ANA CHERI** says even though the world knows her as a fitness and bikini model, she's really a tomboy at heart. If that's true, then she's the only tomboy in the world with 2 million Instagram followers who worship her every move. Here's what else she had to say... BY PAMELA NULET

ABOUT THE DOCTOR

Victor R. Prisk, M.D., is a board-certified orthopedic surgeon, College All-American gymnast, and GNC medical advisory board member.



Running Flat

Shin splints can range from annoying to totally debilitating. Here's how to make sure they never leave you sidelined.

BY VICTOR PRISK, M.D.

I HAVE PERSONALLY experienced the excruciating pain of shin splints, starting back in high school. A dull aching pain along the medial lower leg that initially arose toward the end of runs eventually gave way to shin pain that made it nearly impossible to even start a run. On some days, I could barely walk after getting up in the morning.

"Shin splints" is not really a technical medical term. It generally refers to pain at the middle to distal third of the shin on the inner (medial) part of the lower leg (tibia). Shin splints are typically the chronic condition called medial tibial stress syndrome (MTSS).

Just like a stress fracture, MTSS can occur from the "terrible too's"—too much, too soon, and too often. Foot shape, muscle weakness, overly tight musculature, and low bone density can further increase your risk. So when training on hard surfaces without cushioning, all the stress on your foot is translated onto your shins, tendons, and muscles. The combination of a hard surface, lack of cushioning, and lack of arch support is the most common cause of shin splints.

When afflicted with MTSS it is important to take a step back from your training and determine if you are



stuck in the terrible too's. You may need to take some active rest with cross-training (for example, swimming, biking, yoga, weights) until your pain with everyday walking subsides. We can all use a little work on our core, flexibility, and balance.

And reevaluate your shoes. If you

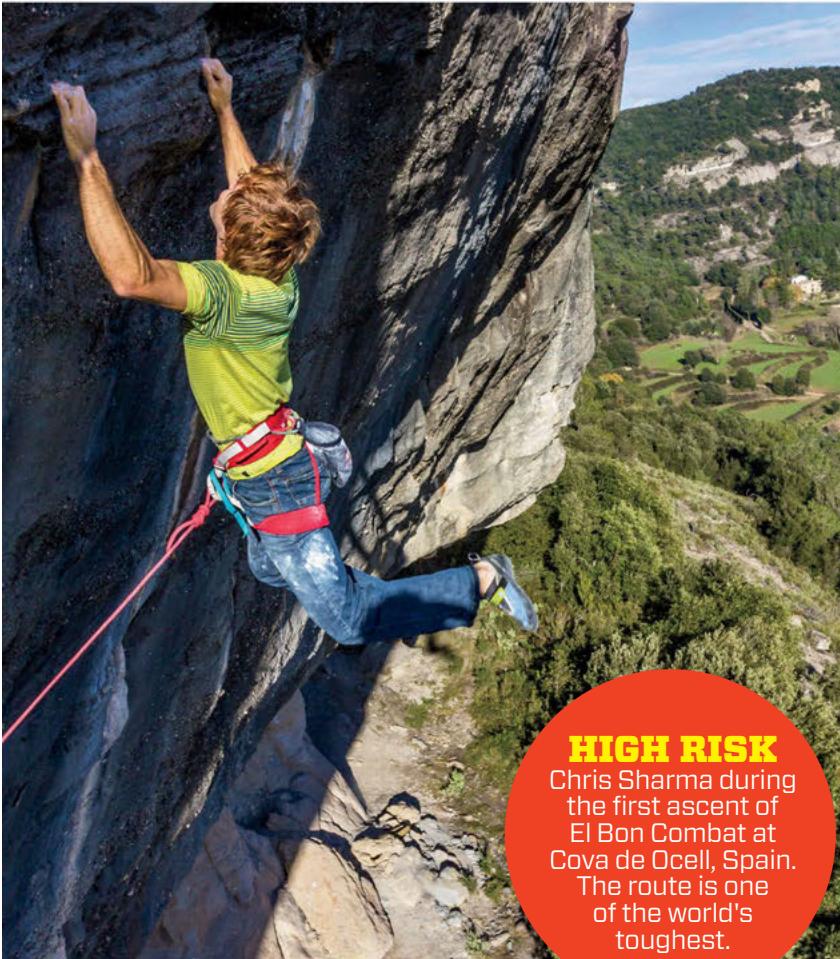
ICE IT UP

As soon as you feel pain, begin icing your shins. If you can weaken the inflammatory response, therapy is easier.

are dealing with MTSS, I would focus on a stability shoe with good support and heel cushioning. You can always add an over-the-counter or custom orthotic for a little extra arch support and heel cushion. Doctors can prescribe custom orthotics, night splints for calf stretching, and recommend evaluation by a sports-oriented physical therapist, but physical therapy with gastrocnemius stretching (stretching your calves leaning against a wall), eccentric strengthening, and massage can work wonders for this condition.

"WHEN AFFLICTED WITH MTSS IT IS IMPORTANT TO TAKE A STEP BACK FROM YOUR TRAINING AND DETERMINE IF YOU ARE STUCK IN THE 'TERRIBLE TOO'S.'

EXTREME FITNESS



HIGH RISK

Chris Sharma during the first ascent of El Bon Combat at Cova de Ocell, Spain. The route is one of the world's toughest.

Because It's There

CHRIS SHARMA is always searching for the next "impossible" route. **BY MARK BARROSO**

SPORT CLIMBER Chris Sharma recently became the first man ever to ascend El Bon Combat, one of the toughest rock routes in the world. Sharma, 33, has been rock climbing since age 14 and is known for establishing the most difficult routes in bouldering (no rope) and sport climbing (fixed anchors). But El Bon Combat isn't even the hardest route Sharma's done. That honour goes to La Dura Dura, also in Spain, a deadly, almost vertical 50-meter climb.

To train for steep routes, Sharma has developed otherworldly pullup

proficiency; he can do an unbroken set of 15 with one hand, 100 if you let him use both hands.

Nevertheless, he's experienced his share of close calls.

"I tore my ACL climbing a high boulder that I fell off," says Sharma. "Another time, I was so excited looking at a climb that I got out of the car, slipped on loose rock, and tumbled six meters down."

For beginners, Sharma suggests learning basic skills at a climbing gym, then finding a partner and enjoying the great outdoors.



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Let It Ride

Summer is here. Luckily, getting fit on the go has never been more convenient. **BY MARK BARROSO**

1

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monsterproducts.com

2

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3

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4

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75 YEARS OF M&F

Vigorous Times

Our June 1992 issue could give you a great ab workout—from all the unintentional laughs. **BY MATT TUTHILL**

THE WORD “VIGOROUS”

might not be a fitness industry buzzword these days, but it's not for lack of trying on our part. For years, the spine of every issue of *M&F* carried the motto, “For Super Fitness & Vigorous Health.” In June of 1992 it was a cover line, too. Though we have discontinued use of this motto for obvious reasons, we still aim to help you get all of the acceptable synonyms for vigorous that won't get you laughed out of the gym: tough, strong, healthy, active, etc.

As it always is with an old issue of *M&F*, it's encouraging to see that the mag never fell prey to any bizarre

fitness trends that have since been debunked. In this issue in particular, we cautioned against prioritizing supps over real food, warned against overtraining, and profiled the still ageless Lenda Murray.

Of course, this wouldn't be the retro section if we didn't highlight our crimes against good taste—and there were many. In a story about bodybuilder Dean Caputo, we showed how hip we were with a *Wayne's World* reference in the headline, “Pushing the Limits...NOT!” Get it? It's about stopping short of failure. [Groan]

There's the usual assortment of goofy outfits and questionable

design choices—including a fashion(!) feature titled “Big Clothes for Big Men” with Paul Dillett looking like a cartoon character in braces.

The funniest and most bizarre choice, however, was a story about LDL cholesterol. The obvious way to illustrate such a story would be to, you know, use a picture of a heart or maybe a cholesterol molecule. But we've never been fans of the obvious, so we went with a photo of Ralf Moeller being attacked by a werewolf. In an effort to avoid confusion (an effort that had the opposite effect) we added the caption: “Pressure on the heart?” Oh, I get it...NOT!

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Athlete: Dan Singh

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Biggest Ever Bodypower



Birmingham once again became the centre of the fitness world for one mad weekend

BY JOHN PLUMMER

A record 79,000 people attended the 2015 BodyPower expo in Birmingham.

The three-day event, which was held for a seventh consecutive year, featured 350 exhibitors and a host of international stars, including Hulk Hogan, Mr Olympia Phil Heath, World's Strongest Man Brian Shaw, internet sensations the Hodge Twins and fitness model Steve Cook.

Bodybuilder Flex Lewis, men's physique pro Ryan Terry, bikini pro Michelle Brannan and weightlifter Zoe Smith led the British contingent at the NEC. Celebrity Calum Best met fans at his booth and TV cook Lorraine Pascale fronted the healthy eating kitchen.

The weekend also featured Britain's only IFBB pro bodybuilding show, a two-day amateur bodybuilding contest, the Fit Factor fitness modelling

competition, strongman and power-lifting contests and all manner of audience participation events.

"There was such a buzz around the venue this year," said Nick Orton, founder and chief executive of BodyPower.

It's been quite a year for Orton's company: 2015 saw the second instalment of BodyPower India and the first BodyPower Ireland is scheduled to take place in November.



Bodybuilding star Ian Dowe congratulates bikini fitness champion Jayne Lo

Superb taste

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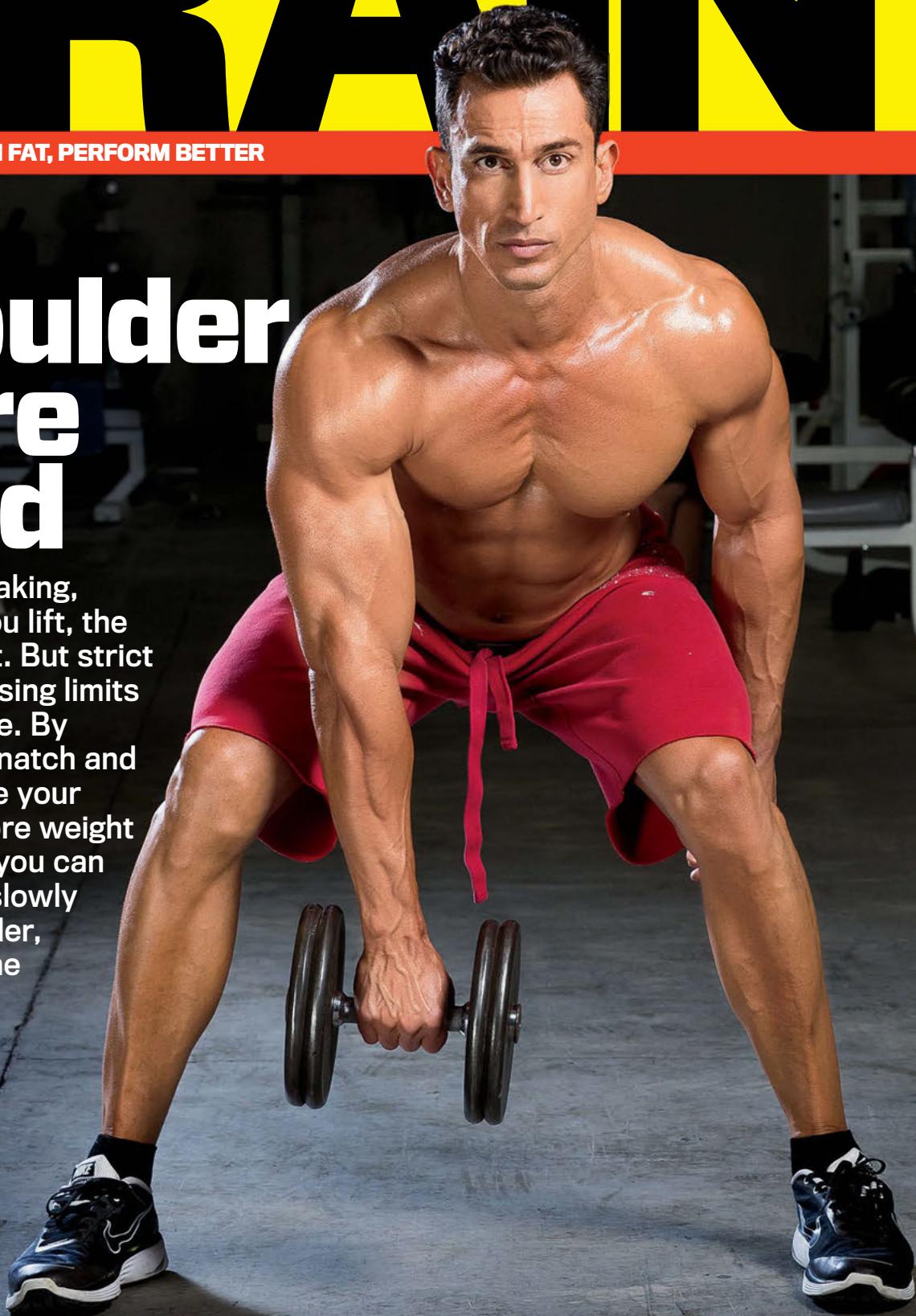
TRAIN

BUILD MUSCLE, BURN FAT, PERFORM BETTER

Shoulder More Load

Generally speaking, the heavier you lift, the bigger you get. But strict shoulder pressing limits your poundage. By combining a snatch and press, you use your hips to get more weight overhead, so you can then lower it slowly to your shoulder, overloading the deltoids.

BY BEN BRUNO



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IAN SPANIER



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QUICK TIP Try to take five full seconds to lower the weight. The longer muscles spend under tension, the greater their growth potential.

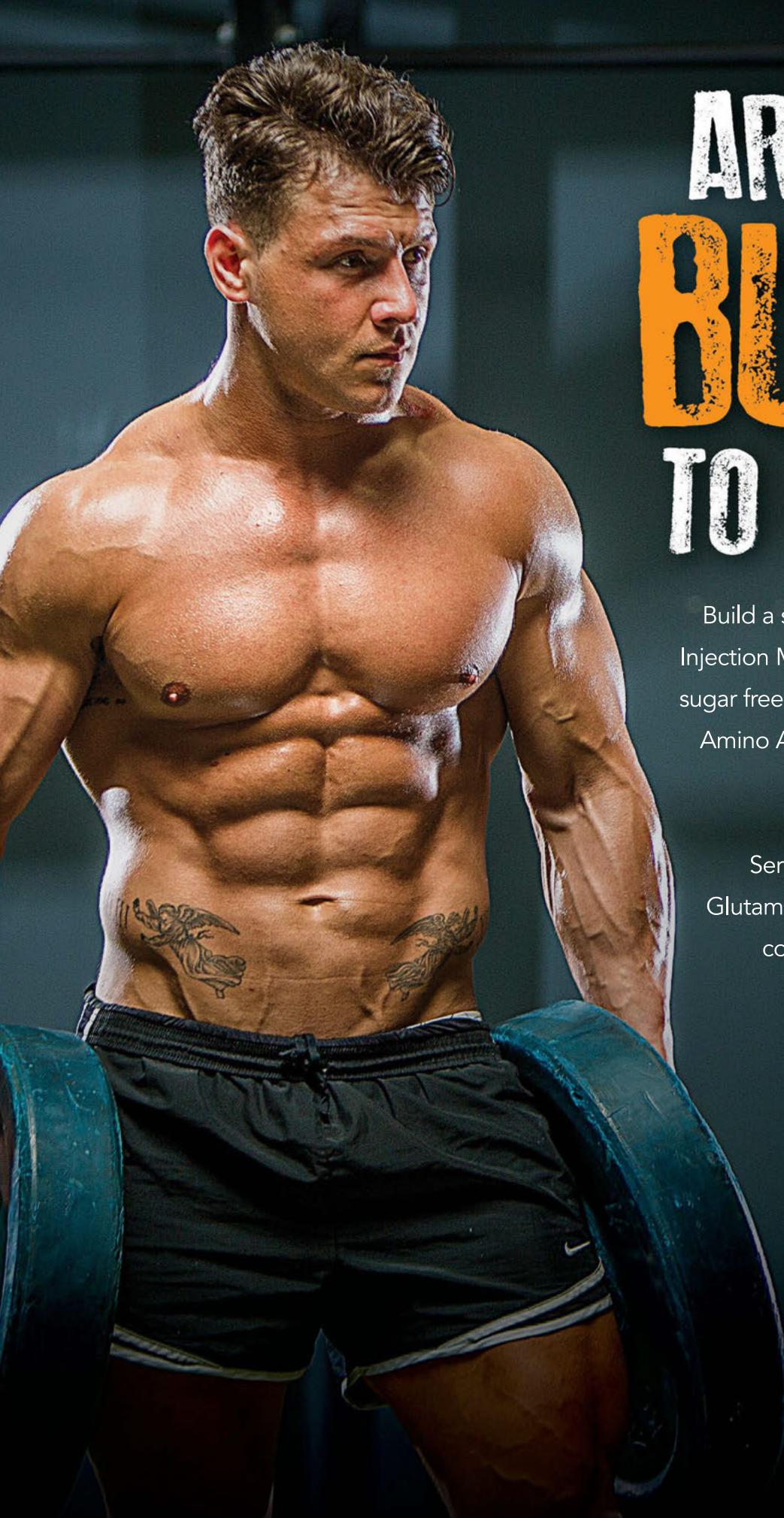


HOW TO DO IT **SNATCH PRESS**

1 STAND WITH feet slightly wider than shoulder width and bend your hips until the dumbbell is below your knees (previous page). Keep your chest forward.

2 EXPLOSIVELY EXTEND your hips and pull the weight up in front of your body, locking it out overhead. From there, turn your palm so it faces in, then slowly lower the dumbbell to your shoulder. That's one rep.

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Get a Grip

For strongman **MIKE BURKE**, championship grip strength came from working like a man.

BY MARK BARROSO

MIKE BURKE ATTRIBUTES

his top-notch strongman grip strength to 20 years and counting of working construction.

"I've swung a hammer and carried wooden beams most of my life," Burke says. "Working with your hands gets your grip stronger."

A world-record holder in two grip events, Burke trains his grip directly only to prepare for a contest; otherwise, it's all about manual labor.

"I use a 5-3-2 routine with strongman training on Saturdays," he says. "I work up to a five-rep max one week, then a three-rep max the next, then two."

Burke's workout is below; you'll need special equipment from ironmind-store.com, but his grip tips can be used anywhere.

BURKE'S GRIP WORKOUT

EXERCISE

Ironmind Rolling Thunder*

Ironmind Apollon's Axle*

Single-arm Pinch Grip with Plates or Blobs**

*Work up to a one-rep max. Decrease weight by 20 pounds and hold apparatus as long as possible. Repeat dropsets until failure.

**While standing, pinch weight plates or fat ends of "blobs" (dumbbell with handle removed) together using only your fingertips. Clean and press overhead. Repeat until failure.



KEEP IT SIMPLE
"Lift as much heavy shit as you can until you can't lift anymore," Burke says.

BURKE'S TOP 3 GRIP STRENGTH TIPS

1

LIGHTEN THE LOAD

Double-overhand deadlift light weight for three sets of 12 reps.

2

GET WRINGING

Soak a bath towel in water, then wring it out dry. Repeat six to eight times.

3

NO STRAPS

Lift as much weight as possible in an exercise before using straps.

BURKE'S STATS

AGE: 40

HEIGHT: 6'6"

WEIGHT: 345 lbs

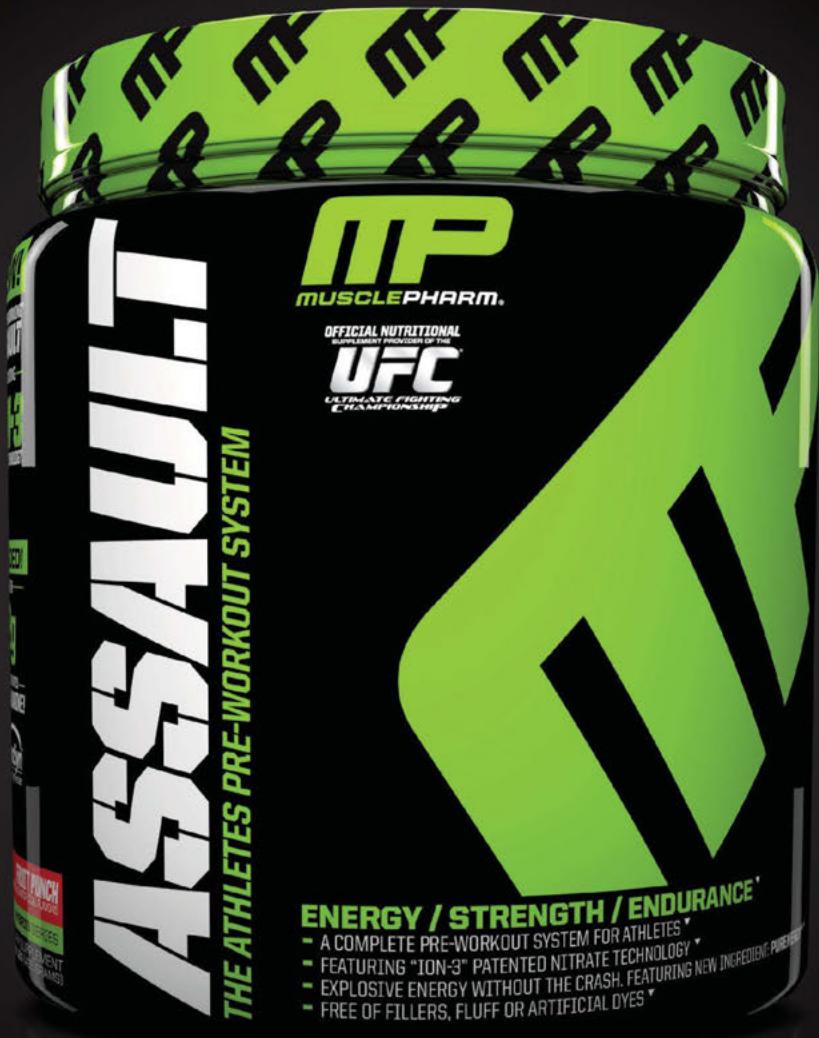
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Hardcore Pushup

The pushup by itself is a good chest and core exercise, but add a twist (literally) and you can work your back as well in one simple, yet challenging, move: the T-pushup. **BY SEAN HYSON, C.S.C.S.**



HOW TO DO IT **T-PUSHUP**

The T-pushup has your abs stabilizing your body through three planes of motion and offers a good way to work more pulling into your routine for better shoulder health and back strength. Doing it with dumbbells has another benefit as well: It increases the range of motion your pecs have to work in.

1 GET INTO pushup position while holding dumbbells.

2 PERFORM a pushup, and on the way up, twist your torso to the left, raising the weight straight overhead so your body forms a T shape with your arms.

QUICK TIP

For an extreme test of shoulder stability, try a T-pushup with one hand on a medicine ball.



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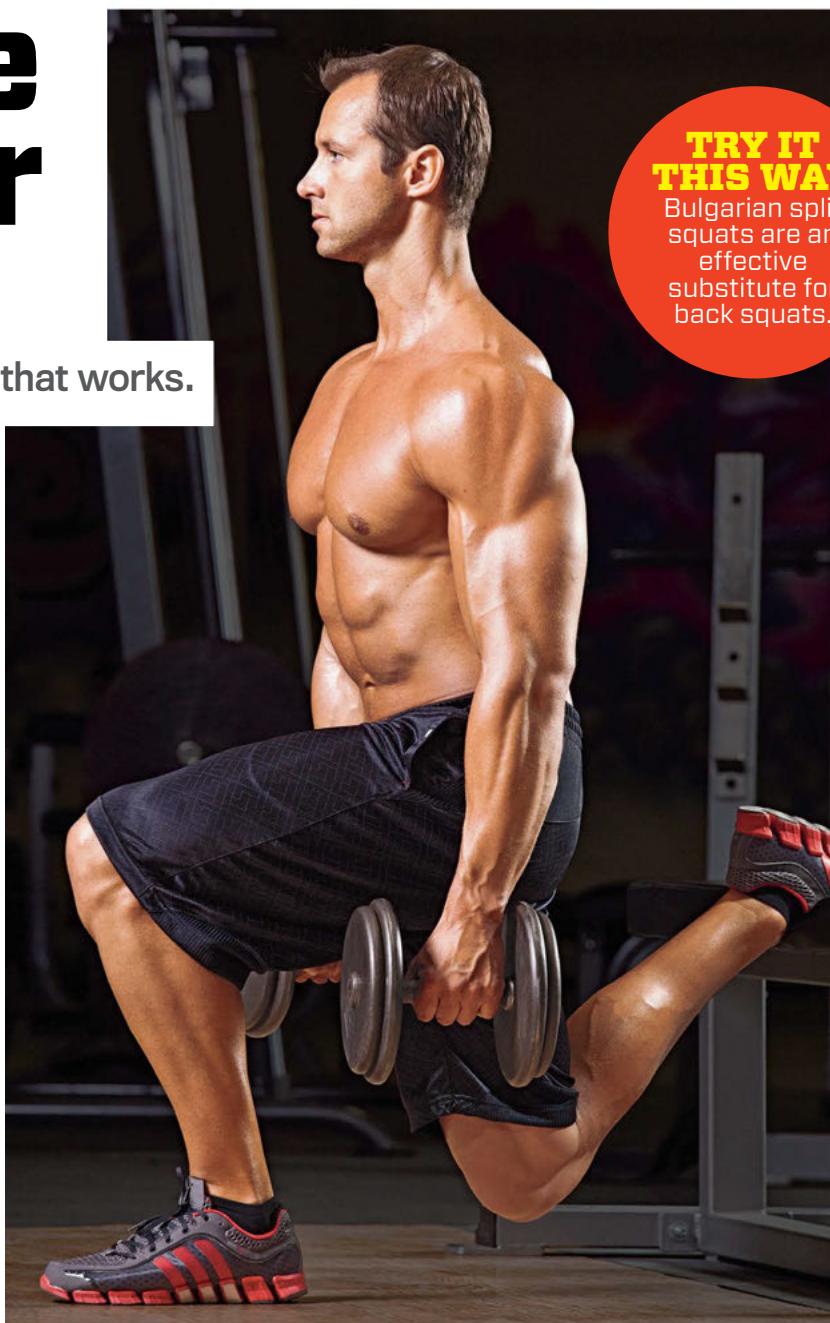
Muscle Master Plan

The “best” workout is one that works.

BY ADAM BORNSTEIN

WE THROW A LOT of information at you in *Muscle & Fitness* every month, but that doesn’t mean you have to start applying it all at once. Too many lifters overthink their training, trying to figure out how many reps of curls they need or if their rest periods are short enough. Analysing your programme to this extent will only hold you back.

You want to know which approach works best? Consistency. And hard work. You see, all kinds of exercises, rep ranges, and rest periods will bring gains. Case in point: This year, the *Journal of Science and Medicine in Sport* compared two kinds of periodization programs and their effects on strength. One was old-fashioned linear periodization, in which you start off using lighter weights and higher volume and then progress to heavy weights and low volume. The other was undulating periodization, in which the volume and intensity change each workout. The result: Both protocols brought strength gains, and there was no significant difference between the groups.



TRY IT THIS WAY
Bulgarian split squats are an effective substitute for back squats.

THINK LESS, GAIN MORE

The inexact science of muscle can be good news for you. It means less time stressing over the small factors and more time applying the principles that get results. Here’s what you need to do.

1 USE A WIDE RANGE OF REPS

Sets of one to five are best for strength, while medium reps (six to 12) will build more pure size. Occasionally, sets of 15 or more can be used as well to target the growth potential of more endurance-oriented muscle fibres.

2 STICK WITH THE BASIC LIFTS

(Variations included.) Everyone knows that squats, deadlifts, presses, and rows get the job done. However, doing these lifts from different angles and using different pieces of equipment will challenge your muscles, too.

3 TRAIN AS LONG AS YOU LIKE

A new study showed that subjects who trained in different time blocks that all equaled 60 minutes over the course of a week got the same results. So as long as you get the work you need to grow, workout length doesn’t matter.

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Get Some Air

Clapping pushups aren't just for show-offs. Rev your metabolic motor with this high-intensity circuit.

A four-exercise total-body metcon (metabolic conditioning) circuit designed by Los Angeles-based celebrity trainer Andy McDermott. You perform clapping pushups, squat jumps, and hanging knee raises, with a minute of skipping at the end. Go nonstop for 15 total minutes.

Alternating between the upper and lower hemispheres of the body forces the heart to work harder to supply blood to working muscles. "It's an uncomplicated way to get a total-body workout while developing power," McDermott says. With access to a pullup bar and a jump rope, you can take this workout anywhere.

THE WORKOUT

Directions: Set a timer for 15 minutes and perform the following exercises as a circuit without stopping.

EXERCISE	REPS
▲ Clapping Pushup	5-8
Squat Jump	10
Hanging Knee Raise	10
skipping	60 seconds

QUICK TIP

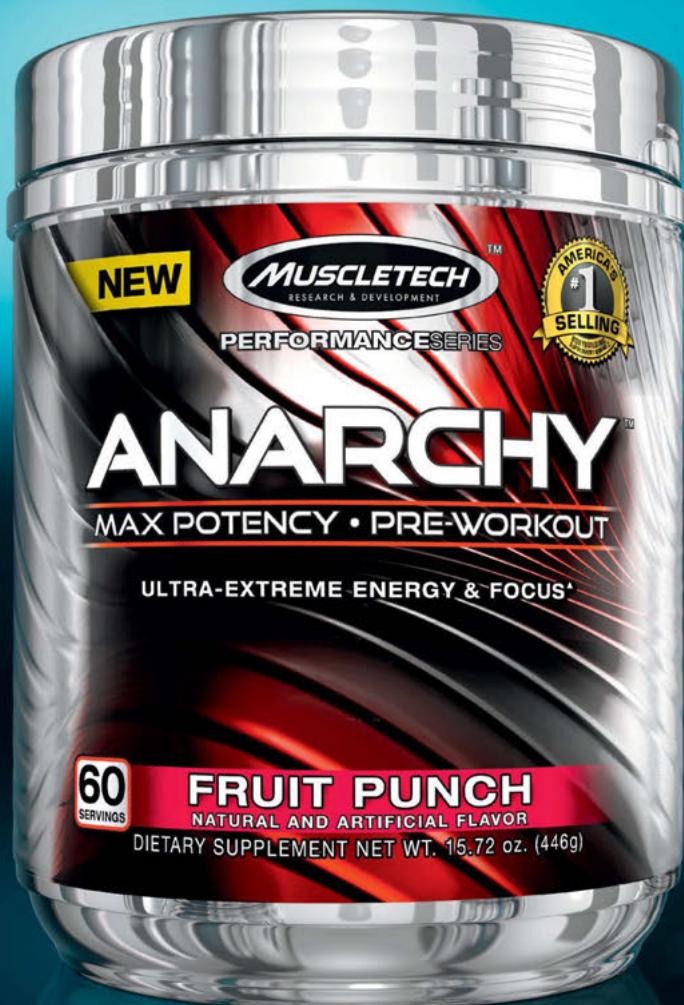
If you're new to clapping pushups, start out with a simple plyo pushup variation; push hard enough to get your hands a few inches off the floor. As you gain confidence, add the clap.



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World's Fittest Mogul?

JORDAN ZIMMERMAN'S ad campaigns have helped define pop culture, but his defined abs are just as impressive. **BY SEAN HYSON**

EVER HEAR OF THE "Just Say No" antidrug campaign, or Papa John's "Better Ingredients. Better Pizza"? They're but a couple of Jordan Zimmerman's handiwork. The former competitive bodybuilder chairs Zimmerman Advertising, one of the world's biggest ad and marketing agencies. At age 59, Zimmerman routinely rips through three-a-days: cardio around 3 a.m., followed by weight training and, after a full workday, pushups and another cardio session before bed. "I've built this empire, and I have a lot of people depending on me," he says, justifying why he must be in the best shape possible (and at 180 pounds and 6% body fat, he is). "Anyone who doesn't use that as fuel isn't doing what's best for those people."

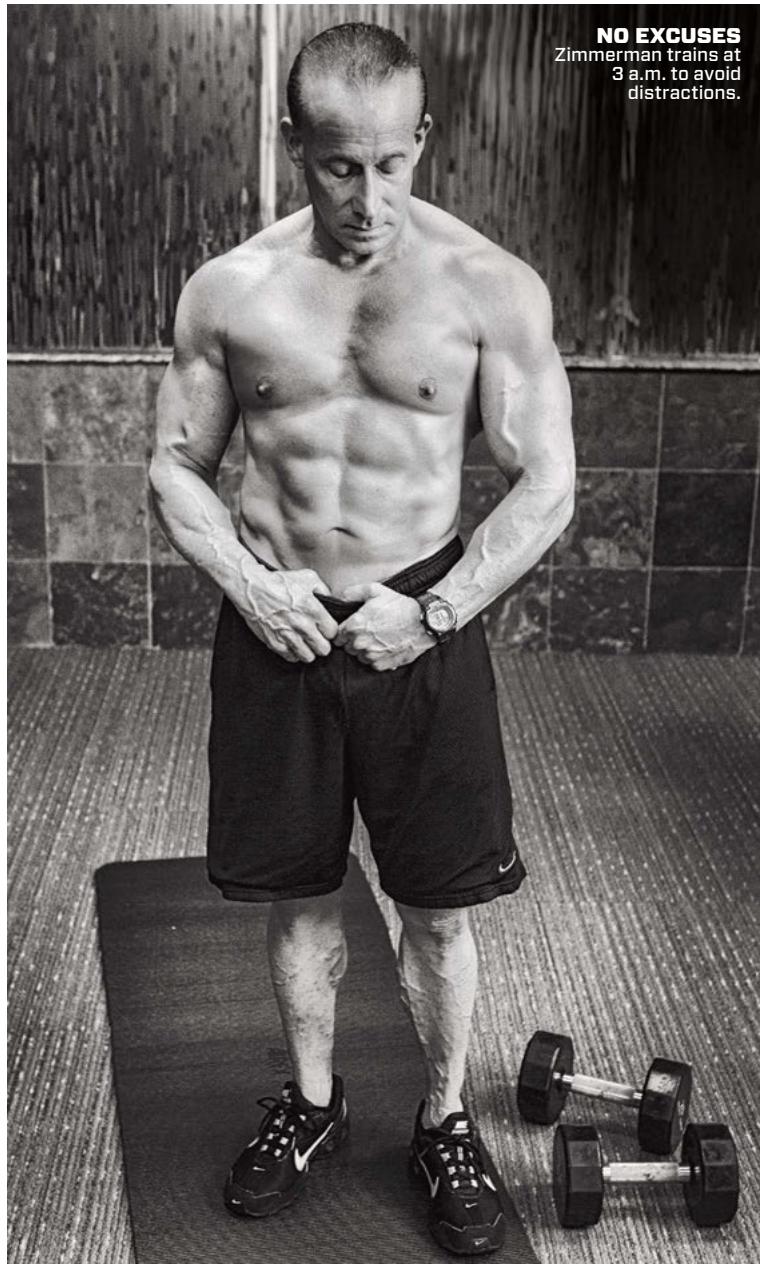
THE WORKOUT LEGS

Zimmerman's leg workout features five moves and does not require the use of heavy weights.

EXERCISE	SETS	REPS
Sideways Leg Press	3	15
Split Squat on Bosu Ball	3	15
Lying Leg Curl*	3	10
Front Squat	3-4	15-20
Seated Calf Raise**	1	10

*Slow negative on each rep, followed by five fast reps at the end of the set.

**Perform 10 reps, then reduce the load and do another 10, followed by one more dropset of 10.



ZIMMERMAN'S OVER-40 TRAINING TIPS

1

GET UP EARLIER

Zimmerman's pre-dawn workouts allow him to train without distractions or interruptions. "At that time of day, the world is yours," he says.

2

PRIORITIZE YOUR HEALTH

"You're cheating yourself and your family if you don't," he says. A suggestion for beginners: "Check your body fat and weight when you start."

3

GO LIGHT

If you're over 40, there's no need to push heavy weights to build muscle. "You get just as much from lighter weights and higher reps and supersetting."

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Calf Time

Thornton M. sent us his calf workout to review. Here's how we fixed it.

BY SEAN HYSON, C.S.C.S.

THORNTON'S OLD WORKOUT

EXERCISE	SETS	REPS
Standing Calf Raise	3	10
Seated Calf Raise	3	10
Single-leg Standing Calf Raise	3	15

M&F 

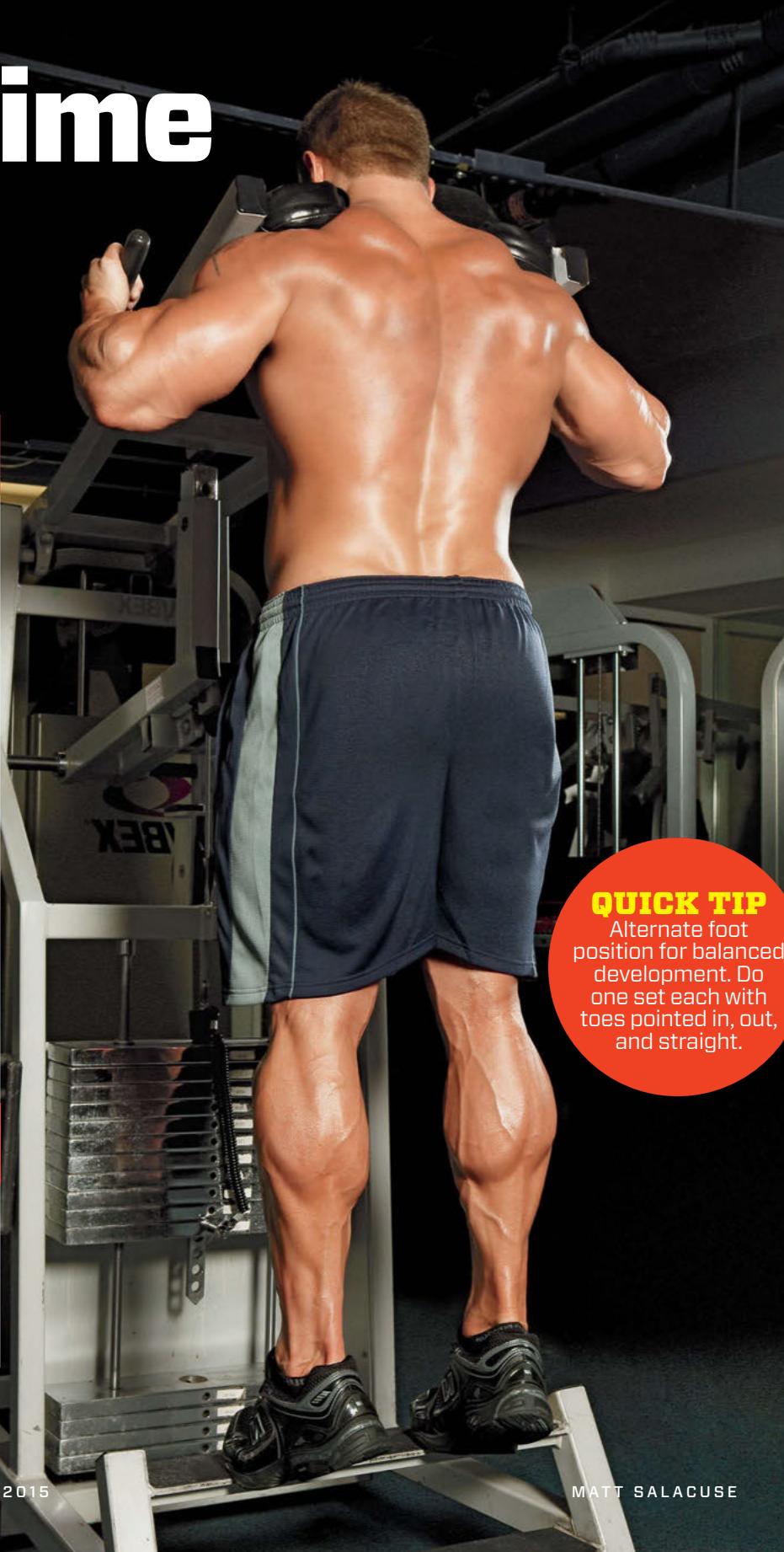
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Work your calves with higher reps and superset them with toe raises. Just as with biceps and triceps, **TRAINING BOTH SIDES OF THE LOWER LEG WITH NO REST IN BETWEEN WILL DRIVE MORE BLOOD INTO YOUR CALVES, LEADING TO MORE GROWTH.** When you see how tough and exhausting these are, you'll know you won't need any more work.

THORNTON'S NEW WORKOUT

EXERCISE	SETS	REPS
► Standing Calf Raise	3	30
Toe Raise*	3	30

* Stand on the floor and simply raise the front of your feet off the floor, balancing on your heels.



QUICK TIP

Alternate foot position for balanced development. Do one set each with toes pointed in, out, and straight.

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WHAT'S IN THE FRIDGE THIS MONTH

Breast Milk for Muscle Gains?

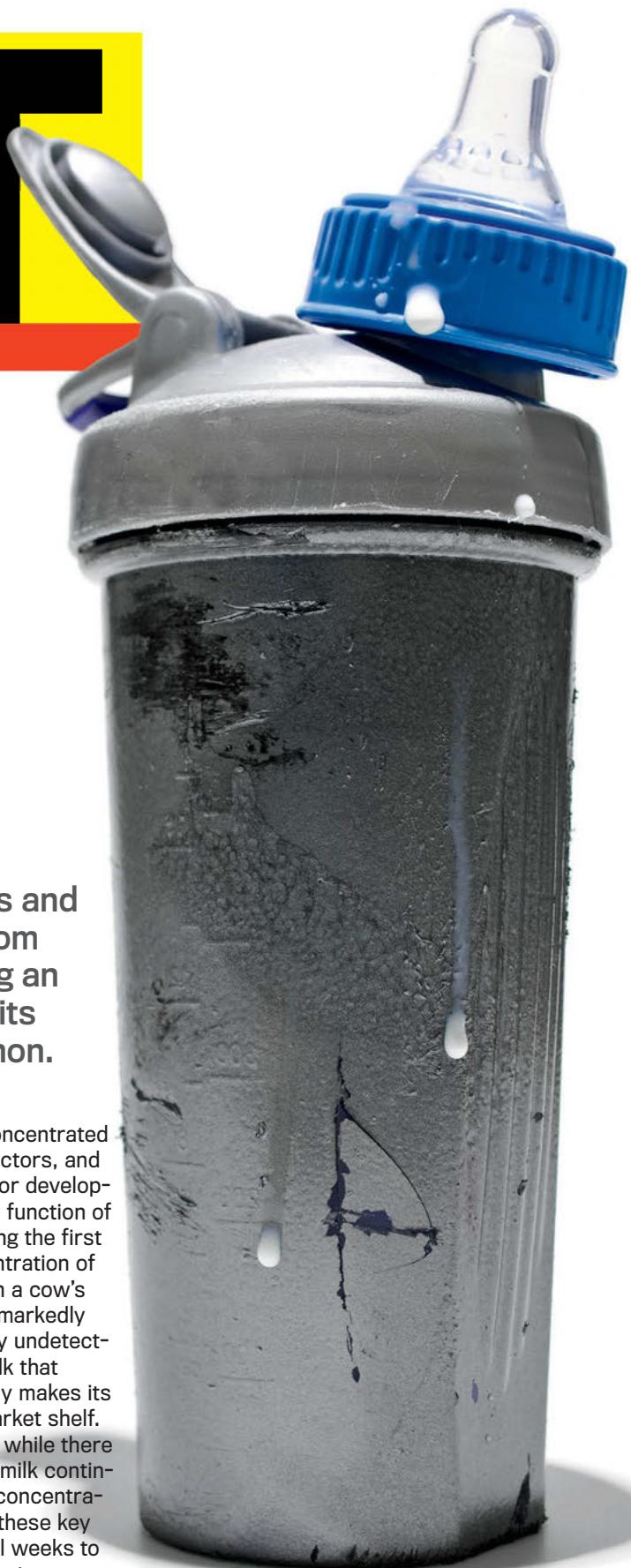
It may sound insane, but bodybuilders and other athletes are seeking out milk from nursing moms with the hope of finding an edge in the gym. We examine the merits and risks of this surprising phenomenon.

BY DAVID SANDLER, M.S., C.S.C.S.

IT'S KIND OF IRONIC that in the world of sports nutrition, where tomorrow's innovations cannot come fast enough, one of the latest fads has roots in the Mesozoic Era, when dinosaurs roamed the earth. Human breast milk is hardly something an avid fitness enthusiast would consider a performance supplement. Yet breast milk is having its moment thanks to its purported superiority to cow's milk for building muscle.

Where to separate myth from fact? Let's start here: All animal milk begins as colostrum, a precursor to breast milk that is

loaded with highly concentrated hormones, growth factors, and important nutrients for developing the structure and function of the entire body. During the first few days, the concentration of key growth factors in a cow's colostrum drops off markedly until they are virtually undetectable in the normal milk that follows and eventually makes its way to your supermarket shelf. However, in humans, while there is a drop-off, breast milk continues to hold a higher concentration (per milliliter) of these key hormones for several weeks to months after the colostrum



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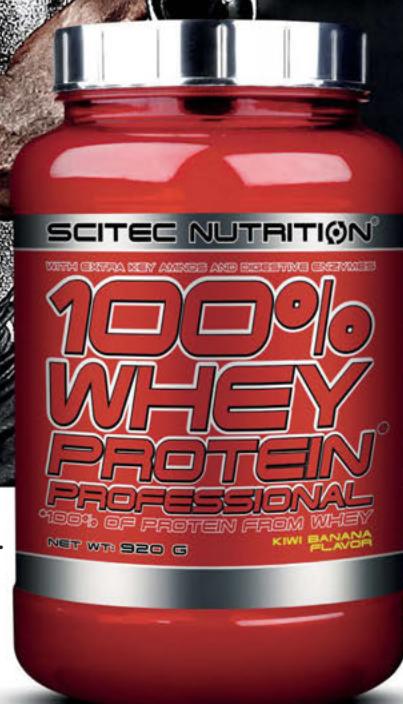
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GOT MILK?

In addition to protein, regular cow's milk provides fast-digesting carbs (lactose), making it a good post-workout choice.

**GONE BAD**

About 74% of breast milk on the black market is contaminated with bacteria like staph.

phase. Thus, the belief that consuming human breast milk will increase muscle size and strength has been perpetuated. However, it is not quite that simple.

First, the level of hormones in regular breast milk is relatively low, concentrated in the fairly small amount of colostrum. Second, the growth and development needs of an infant differ from those of a bodybuilder. While the concentration of hormones may be higher in human breast milk, the adult human digestive system is far more developed than that of an infant and not as absorbent to the growth factors in colostrum. Neither research nor practice has shown that colostrum can build muscle any faster than regular cow's milk or whey.

Perhaps the most concerning issue is how to get clean breast

milk. While it is available from various sources, nursing moms taking to Craigslist tend to be the leaders of the field, and in these instances, the risk of contamination is very high. Reports suggest that 74% of the samples obtained from black-market sources have significant levels of bacteria, such as staph and strep, that would fail regular milk tests.

THE SHORT-TERM SOLUTION

Setting risk aside, breast milk may in fact be a good ingredient as it does have some powerful constituents for improved performance, but questions still must be answered. Rather than drop serious money trying to find good breast milk, consider several solid alternatives besides the standard dairy-based protein powders you've

come to know. Powdered colostrum contains specific bioactive peptides that can help improve muscle size, strength, and overall performance. Bonded amino acids and other bioactive peptides boost muscle protein synthesis, improve immune function, and are becoming more widely available. In addition, there are new ingredients that focus on mTOR pathway activity, increasing the potential for muscle development. As research continues, the possibilities grow.

Down the road, breast-milk alternatives could be found in primates, our closest kin, who possess similar milk characteristics, and thus a host of monkey-milking farms may be the wave of the future. Until then, train hard, eat right, and use supplements that are verified to be safe.

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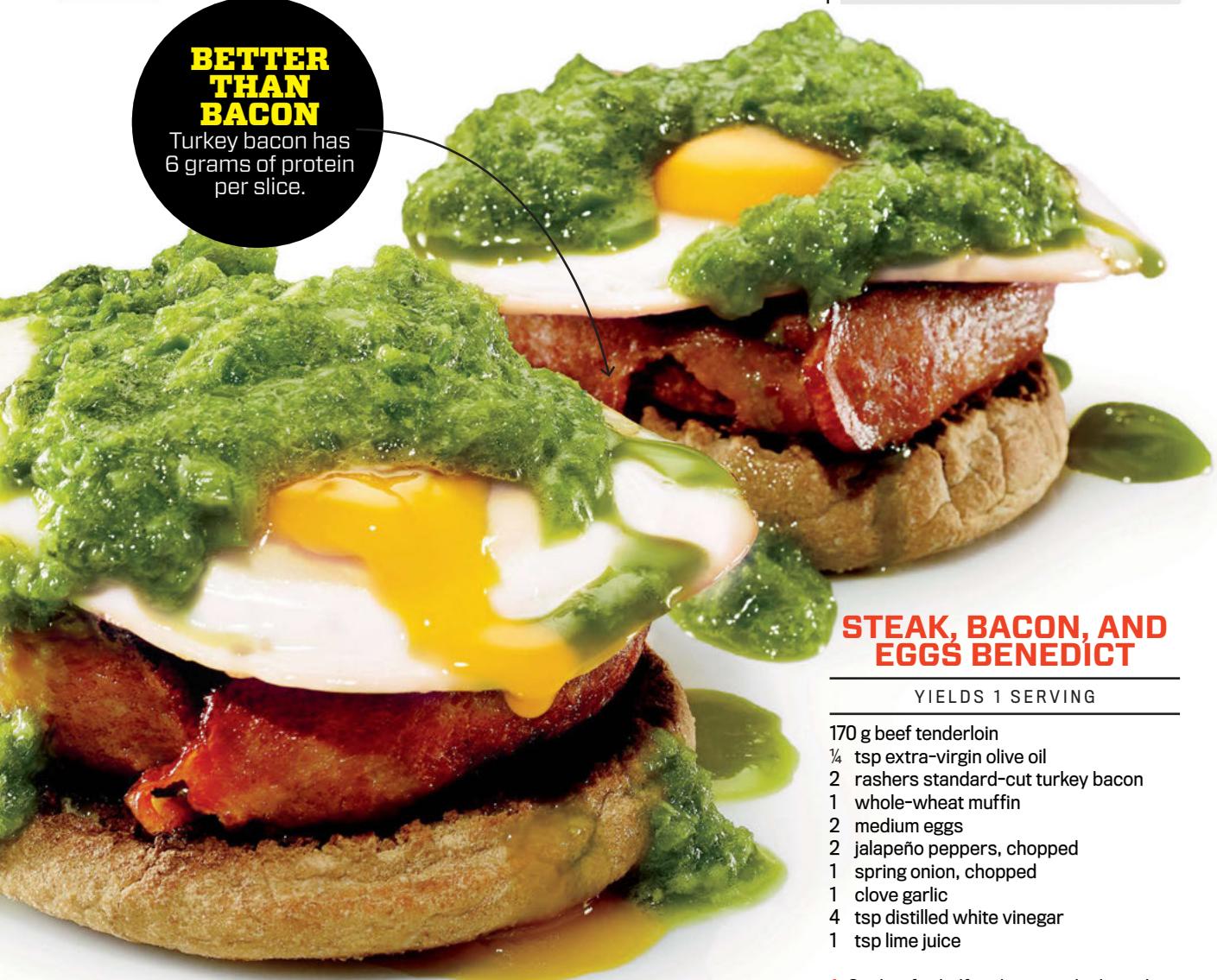
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**STEAK, BACON, AND EGGS BENEDICT**

YIELDS 1 SERVING

170 g beef tenderloin
¼ tsp extra-virgin olive oil
2 rashers standard-cut turkey bacon
1 whole-wheat muffin
2 medium eggs
2 jalapeño peppers, chopped
1 spring onion, chopped
1 clove garlic
4 tsp distilled white vinegar
1 tsp lime juice

1. Cut beef in half and coat with olive oil. Wrap each half in a rasher of bacon. Place a skillet over high heat.
2. When pan is hot, add the bacon-wrapped beef to it and cook 3–4 minutes each side. Remove and place one piece on each half of muffin.
3. Pour most of the fat out of the pan. Place pan back on the heat and cook both eggs until whites are cooked but yolk is still runny.
4. While eggs cook, place peppers, spring onion, garlic, vinegar, and lime juice in blender and blend.
5. Remove eggs when cooked and place one on top of each steak. Drizzle pepper mixture over top and enjoy.

Beefed-Up Benedict

Breakfast for dinner? It makes sense when you give traditional eggs Benedict a protein boost by adding steak (and cutting fat). Turkey bacon will still give you that smoky flavour without as many calories, and our proprietary pepper mixture will make you forget all about hollandaise sauce.

BY AMY SCHLINGER

FOOD STYLING BY BRETT KURZWEIL

NUTRITION PER SERVING

689 CALORIES	69g PROTEIN	31g CARBS	28g FAT
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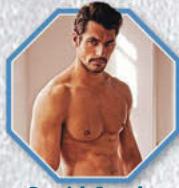
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Pomegranate

Reap the benefits of this unique fruit.

BY CHRIS GIBLIN

DESPITE THE pomegranate's widespread cultivation and consumption throughout Asia and the Middle East, it has never rivaled the apple or the orange in terms of popularity or convenience.

Pomegranates definitely pack a punch in the flavour department; they toe the line between sweet and tart nicely, and the seeds are often compared to cranberries and grapes in terms of taste and texture. One medium pomegranate, which equals about 3 servings of fruit, supplies about 39 grams of carbs (and a bit more than 200 calories total). That same pomegranate provides 11 grams of fibre (45% of your daily value based on a 2,000-calorie diet), along with about half your daily amount of vitamin C.

What's more, a 2011 study examined the impact that drinking pomegranate

juice may have on post-workout muscle recovery. For 15 days a group of 17 men who routinely performed resistance training drank two servings of 250ml of pomegranate juice or a placebo twice daily while following their normal diet and weight training routine. On the eighth day, the men trained their arms and legs, focusing on the eccentric contraction during elbow extensions and unilateral knee extensions at maximum capacity. They drank an additional third serving of 250ml of pomegranate juice immediately after exercising. The upshot? The study found that the men who drank the pomegranate

juice maintained more of their post-exercise arm strength when compared with the men drinking the placebo. However, a similar result was not found for knee strength in the men drinking pomegranate juice compared with those taking the placebo.

Researchers attributed the positive effects to the high levels of polyphenols in the juice.

While this study does not prove causation and further research is needed, it adds to a growing body of research into pomegranate juice as part of an overall healthy diet.

Some information for this article was provided by POM Wonderful.

NUTRITIOUS AND CONVENIENT

Delicious and revitalizing as they are, there's a reason pomegranates likely weren't a common sight in your kitchen growing up: They don't fit the bill as a simple, on-the-go fruit. Luckily, pure pomegranate juice, like POM Wonderful, delivers many of the benefits of whole pomegranates. An *in vitro* study at UCLA found that pomegranate juice has, on average, more antioxidant potency than red wine, grape juice, or tea. Best of all: no kitchen tools required.



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Stick 'Em Up

Add chicken skewers to a quick and easy marinade and you've got gains on the go.

CHICKEN KEBAB

YIELDS 2 SERVINGS

170g chicken breast, boneless and skinless
 170 g chicken thigh, boneless and skinless
 3 tbsp olive oil
 Juice and zest of 1 lime
 28 g garlic, minced
 28 g fresh ginger, minced
 28 g shallots, minced
 1 tsp red chili powder
 1 tsp ground coriander
 1 tsp garam masala
 1 tbsp fresh parsley, chopped
 1 tbsp fresh thyme, chopped
 2 tbsp fresh mint, chopped
 Salt
 Pepper

1. Soak wooden skewers in water for 1 hour.
2. Cut chicken breast and thighs into 42 g pieces.
3. Mix 1 tbsp olive oil, lime juice and zest, garlic, ginger, shallot, spices, and chopped herbs in a mixing bowl.
4. Heat 2 tbsp of olive oil in a deep skillet. Season the chicken with salt and pepper. Sear the chicken on both sides, remove, then marinate for 2 hours.
5. Remove seared chicken from the marinade, and skewer alternating breast and thigh, 2 pieces of each on each skewer.
6. Preheat oven to 159°C.
7. Lay chicken out on baking sheet and baste with marinade, being sure to evenly distribute.
8. Bake at 159° for 10 minutes. Remove and let rest 3 minutes before serving.

PER SERVING (KABOBS ONLY)

527 CALORIES	45g PROTEIN
21g CARBS	32g FAT

QUICK TIP

Round out this meal with rice and yogurt sauce. For a tangy yogurt sauce, combine 460 ml plain yogurt, the juice and zest of one lemon, 112 g of fresh shaved basil, kosher salt, and pepper.



ABOUT THE COOK

Danielle Walker is the author of *The New York Times* best seller *Against All Grain*.

1 FOOD, 5 WAYS



SUPERFOOD

One hundred grams of avocado has 127 more milligrams of potassium than the same amount of banana.

Avocados

Add this heart-healthy fruit to your diet to stay fuller for longer.

BY DANIELLE WALKER

1

BAKE THEM WITH EGGS

Preheat oven to 196°C. Cut 2 avocados in half and remove stones. Place halves on a baking dish with sides touching so the avocados don't tip over. Crack an egg into each of the cavities and season with salt and pepper. Bake for 8-10 minutes.

2

MAKE A LETTUCE WRAP

Cook 1 package of nitrate- and sugar-free bacon until desired crispiness. Pat excess grease off with a towel. Stem and clean a head of lettuce and divide the leaves into cups. Top each cup with sliced avocado, tomatoes, bacon and alfalfa sprouts.

3

TOSS A SALAD

Grill 4 boneless skinless chicken breasts, then dice them. Toss with 225 g diced avocado, 1800 g lettuce, 56 g chopped basil, 450 g diced tomatoes, and 225 g diced cucumber. Drizzle with 3 tbsp red wine vinegar, 76ml olive oil, and ½ tsp mustard.

4

PROCESS A PESTO

Blitz 2 stoned and peeled avocados in a food processor with 225 g basil, 110 g almonds, 3 tbsp lemon juice, 2 garlic cloves, ¼ tsp salt, and 110 ml olive oil until smooth. Serve sauce over spaghetti squash or gluten-free noodles with grilled chicken or prawns.

5

WHIP UP A MOUSSE

Place 2 large stoned and peeled avocados, 1 banana, 170 g cocoa powder, 225 g pitted dates, 76ml coconut milk, and ½ tsp vanilla extract in a food processor. Process until smooth and fully combined. Divide mousse into serving cups. Chill for 6 hours and serve.

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OUR EDITOR IN CHIEF WAS INVITED TO VISIT THE SET OF **ARNOLD'S NEWEST FILM, TERMINATOR GENISYS** —AND GOT A WORKOUT TO WRITE HOME ABOUT.

BY SHAWN PERINE



**July 21, 2014,
3:42 p.m.—
New Orleans**

"Come on already! Did you forget it's your turn?!"

"I'm thinking! Not easy to do with all your talking! Scheiße!"

The air outside is thick as a bayou accent and hot as a steaming bowl of étouffée, but Arnold Schwarzenegger and longtime acting coach Walter von Huene are safely ensconced in an air-conditioned trailer, too rapt in their chess game to notice the faint rapping on the door.

**ARNOLD'S TRAINING
IS FAST—SURPRISINGLY FAST. HE'S QUICK
WITH EACH MOVE AND
TAKES ALMOST NO
TIME BETWEEN SETS.**



"Pops" Terminator begs the question: Will experience win out over new technology?

"Check!"

"You sonofabitch! You cheat every chance you get!"

Rap, rap, rap. This time, the knock comes a little louder. Arnold's right-hand man, Daniel Ketchell, puts down a freshly made protein shake to answer it.

As a young production assistant pokes his head in, a rush of thick, hot air floods the trailer. "They're ready," he says.

Without saying a word, Schwarzenegger methodically rises from his seat—he's done this dance three times today already. His hair is ghost-white, and his face is horribly battered. A huge gash fig-

ures prominently across his right cheek, and his chin looks as if it's seen the business end of a cheese grater. He turns to me and raises an eyebrow.

"Let's do this..."

With that, he lumbers down the trailer steps, out into the oppressive heat of the New Orleans afternoon. The Terminator is on a mission.

NASA's Michoud Assembly Facility is a cavernous hangar designed for the construction of giant rockets. This summer, however, it's home to a giant time machine—the centerpiece of *Terminator Genisys*, the fifth film in the series that made Schwarzenegger a household name.

Below: A rare glasses-less promo shot for the original *Terminator*. Right: Young Arnold in CGI form.



With its towering interior walls painted green for EFX work, the hangar is abuzz with dozens of cast and crew members setting up shots, fixing props, studying lines, and generally ensuring that this 111 million-pound production stays on track, 11 months before its July 1, 2015, release.

Arnold enters the hangar with his posse in tow—Ketchell, von

walk. “I’m ready. Let’s stop playing around!”

The upcoming scene involves the Terminator in a pitched battle that involves several of the film’s stars, lots of blinking lights, and some sparks. With so many variables, multiple takes are the order of the day—sometimes to try a different camera angle, sometimes to fix a misfiring prop, sometimes just to be safe.

Over and again, Arnold takes his position in the time machine. Each time, upon hearing “Action!” he channels his inner cybernetic organism, stiffening his body and delivering his lines in that unmistakable accent until director Alan Taylor yells “Cut!” Then, whether the break between takes is two minutes or 20, the Terminator morphs back into the Governor, cracking jokes with a makeup artist, ribbing Rauter, and generally being the biggest presence in a very, very big room.

I saw a lot during the two days I spent on the *Terminator Genisys* set, including some fascinating interplay between the main characters and a few crucial plot lines.

Huene, stunt double Dieter Rauter, security detail Leslie Schmidt, and myself. The five men not named Perine have already spent a couple of months together working on the film and by now act as a cohesive unit, with each practised in his allotted task. For Arnold, that means being the pack leader.

“OK, everybody,” he booms to the crew as he strides across a cat-

Terminator Genisys sees Arnold square off against technologically advanced terminators—and a younger version of himself.



But I'll leave it to entertainment magazines and websites to give you the lowdown on the film. Because I'm the EIC of *Muscle & Fitness* magazine, and Arnold Schwarzenegger is our executive editor, I'd rather fill you in on his TG training—and one particular workout I know I'll never forget.

Training with the Terminator

**July 21, 2014,
8:45 a.m.—
New Orleans**

In a scene captured in the film *Pumping Iron*, Arnold famously

exclaims, "I only stop competing, but I'm not stopping bodybuilding," upon winning his sixth consecutive Mr. Olympia title. Forty years later, he's remained true to his word, continuing to pull and push and pump iron on a near-daily basis, whether it's in his well-equipped home gym (could it be any other way?), Gold's Venice (where he can often be spotted), or a hotel gym in Leeds, or Singapore, or Mumbai.

At 67, Arnold seems to have more energy—and more of an appetite for travel—than ever. This means that he has to adapt to training in a broad range of gyms, from the opulent to the meagre.

I CAN STILL SEE THE FIRE OF DECADES PAST. I CAN SEE THE FOCUS IN HIS EYES.

In New Orleans, the facilities are somewhere in the middle, but weighted toward the meagre.

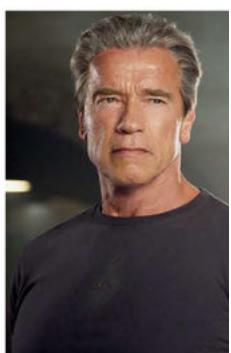
My first morning in New Orleans, I meet Ketchell in the hotel lobby at a quarter to nine, where he informs me that we should



Above: Arnold's last turn as the Terminator in 2003's *Rise of the Machines*. Below: Jai Courtney steps into the role of Kyle Reese in *Terminator Genisys*.

head to the gym, where Arnold would meet us in a bit. The gym is called Downtown Fitness Center, and it resides in The Shops at Canal Place—a modest mall located a few floors below the Westin where Arnold & Co. are staying. It reminds me of a Long Island “spa” my mom worked at back in the early '80s, with its dropped ceiling, carpeted floor, and a color scheme that could only be considered appropriate on a Mardi Gras float. Some of the equipment seems to date from when my mom was a personal trainer as well. The dumbbells are dull and worn, and the machines are mostly Cybex and Nautilus, with white frames and seafoam-green pad coverings. Maybe they're going for the retro look, I consider.

This is legs and shoulders day for me. Feeling a little tired, I



Left: Emilia Clarke, of *Game of Thrones* fame, takes Linda Hamilton's place as Sarah Connor. Above: Pops Terminator shows some of his gray hair.

decide to mix things up by starting with shoulders, hoping to build up my energy for legs. I spot a seated shoulder press machine over by a mirrored wall and begin my workout. As I complete my initial warmup set I feel a magnetic pull coming from the gym's entrance.

"How are you doing today, Arnold?" a thin, older guy working the front desk brightly exclaims.

"Good morning!" replies the Terminator, who walks into the gym as he walks everywhere—with the bearing of a returning hero before his subjects. At least that's how I see it.

He's flanked by Rauter, von Huene, and Schmidt. With a nod to Ketchell, he spies me at the shoulder press machine and makes

**EVEN TODAY,
SEEING ARNOLD
TRAIN IN THE
FLESH FEELS
SLIGHTLY
SURREAL.**

his way over. En route, he notices that a pad on one of the machines is askew and in need of repair.

"So when are you going to fix this thing already?" he booms. "Every day I come in here, and every day it's broken!"

"I'm working on it," replies the manager, clearly enjoying the scolding.

"I'm gonna be back here tomorrow, and this better be fixed!" chides Arnold.

"I promise," says the manager. Arnold approaches me.

"Let me work in here..." he says. At that moment the word *no* had vacated my vocabulary.

He replaces me on the seat and knocks out a quick 15 reps. As soon as he's finished his set, I'm back on the bench. No words are spoken, except for a few of encouragement to each other as the weight increases. We do four sets apiece.

One thing to know about Arnold's training is that it's fast. Surprisingly fast. He performs his reps quickly (but not sloppily), takes almost no rest between sets, and generally trains in big circuits that define perpetual motion.

Although I've had the opportunity to be around Arnold in a variety of situations over the years, this was the first time we'd trained together. Like you, I've watched *Pumping Iron* many times over, studying the scenes of him in the gym—watching his form, gauging his intensity, feeling his passion. Now seeing him doing it in the flesh feels slightly surreal, but it also makes me feel a little like I stepped into that time machine back at the NASA building.

Even though this Arnold is twice as old as the one who last stepped on a bodybuilding stage in 1980, and various injuries coupled with the vicissitudes of age have conspired to keep him from lifting heavy, I can still see the fire of decades past. I can see the focus in his eyes and the assuredness in his movements. Despite the fact that he's lifting in a gym better suited to soccer moms than seven-time Mr. Olympia winners, Arnold Schwarzenegger is training the only way Arnold Schwarzenegger knows how—intensely.

After giving me the chance to forever gloat that I trained with Arnold Schwarzenegger, he launches into a machine-based circuit, starting with a seated row, as I continue my shoulder routine.



Over the next 45 minutes, Arnold would train every body part, even his calves, which he hit with single-leg donkey raises. Unlike in an iconic photo that regularly appears in this magazine (including on the following page), however, neither Franco Columbu nor Bill Grant straddled his back as he performed them.

As Arnold runs through several rounds of his circuit, I finish up my shoulders, then start jumping around to various pieces of equipment without rhyme or reason. My initial plan of training legs is quickly abandoned. If ever there was a time to wing it in the gym, this was it. I notice Rauter over at the dumbbell



rack knocking out flies while Ketchell sets up in the squat rack.

Surprisingly, the gym is relatively empty, with our crew comprising the bulk of its population. Surely word got around town about Arnold's presence and his morning routine. Why isn't this place flooded with onlookers? The few members and staff who are here are impressively respectful of the celebrity in their midst.

"Your arms look pretty good," Rauter says during a break in the action. "What are they...13 inches?"

"Closer to 12," I reply.

Such good-natured ribbing is de rigueur for these guys, with the jabs coming quicker than those

of a prime Muhammad Ali. Yet never do they slow the pace of their training.

Then, just under 50 minutes after he entered Downtown Fitness, Arnold finishes his last set of calf raises and walks over to the squat rack, where Ketchell has loaded the bar with 275 pounds. It's time to leave, but not until Ketchell finishes.

"Come on! Let's do it!" commands Ketchell's boss. Clearly, Arnold's appreciation for Ketchell extends beyond that of employer and employee. The look in his eyes as Ketchell buckles down for this last set of a grueling leg workout is almost...fatherly. I throw some



Left: Jason Clarke and Jai Courtney at the ready. Above: donkey calf raises with Arnold, Bill Grant, and Franco Columbu.

words of encouragement his way as well.

Ketchell unracks the weight, and with a deep inhale drops down to parallel before rising back up, ever so slowly, and reracking. It's probably his 10th set of squats to end the workout. Not bad for a guy weighing maybe 175 pounds. We applaud his efforts and help him strip the bar.

"See you tomorrow!" Arnold says to the manager as he exits the gym to the mall. "That machine better be fixed!" Reflexively, each member of Team Arnold finishes his set, and we play follow-the-leader out the gym, through the mall, up the elevator, and to the hotel buffet for a post-workout, preshoot meal.

You'd be surprised at how little Arnold eats. Whereas I loaded up on scrambled eggs and pancakes, he sat down with a bowl of fruit and some oatmeal.

"No protein?" I inquire.

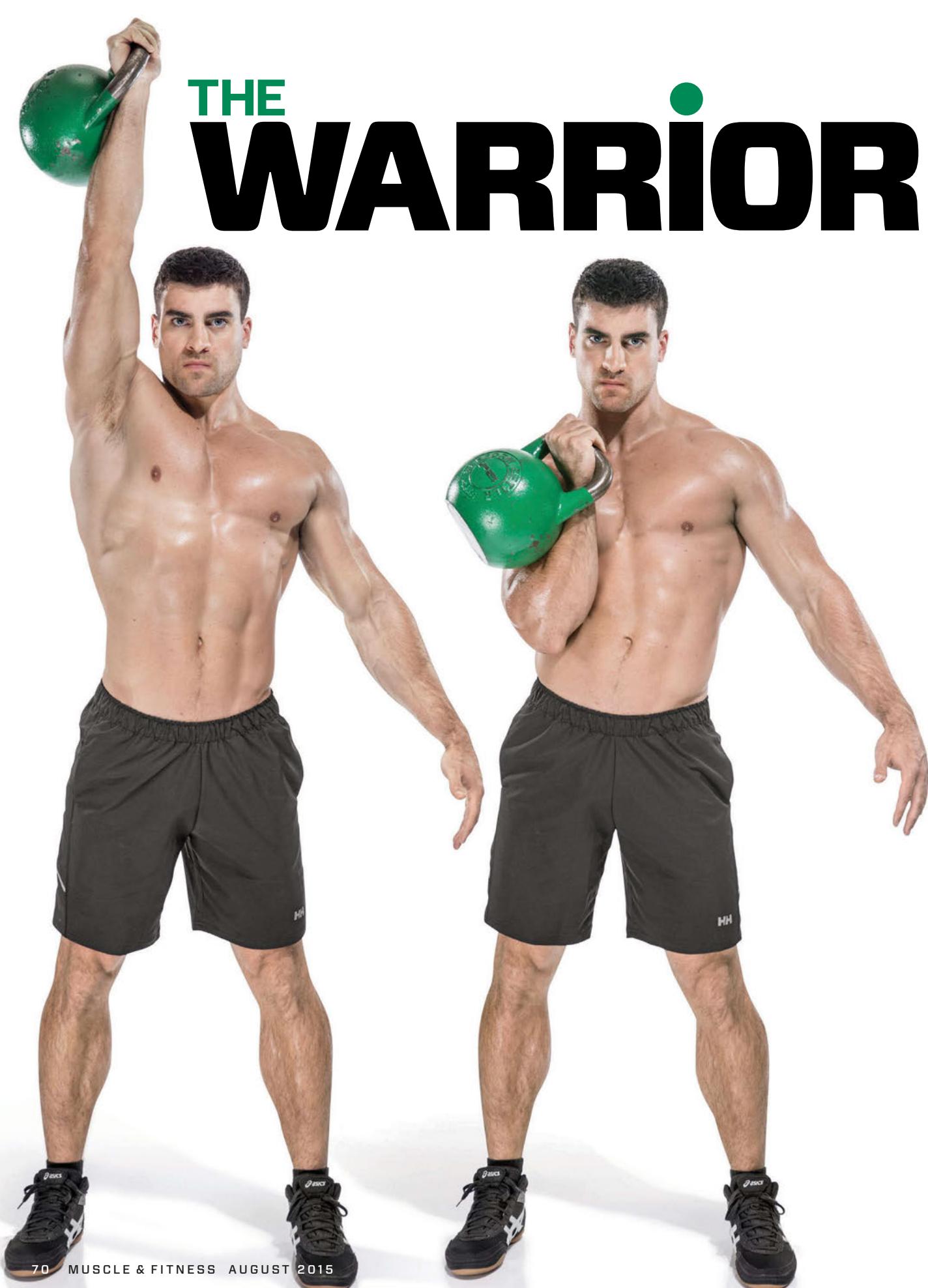
"I don't like to eat heavy in the morning. I get plenty of protein later in the day," he replies.

As was the case in the gym, the restaurant is nearly empty, save for a hostess and a couple of busboys. We spend the next 25 minutes talking bodybuilding, politics, relationships, and, of course, the film. It was basically a bunch of guys chowing down, shooting the shit, and getting ready for another day on the job. Except this job happens to be making what's going to be one of the biggest movies of 2015.

Once finished with his spartan meal, Arnold rises from his seat and heads toward the elevator bank with us in tow. We'll have 15 minutes to shower, change, and meet in the lobby.

From there we'll drive the 20 minutes to the NASA facility, where Arnold Schwarzenegger will once again step into the role of a calculating, unstoppable killing machine, in between rounds of chess. **M&F**

THE WARRIOR



WORKOUT

Five weeks. One kettlebell. When your programme is written by a training master like Pavel Tsatsouline, that's all you need to build muscle and torch fat.

BY MARK BARROSO // PHOTOGRAPHS BY EDGAR ARTIGA

T IS THE VERY definition of simplicity. Of course, simple doesn't necessarily have anything to do with easy. Benching 227 kilograms is a simple concept. So is running a marathon. But accomplishing either is also extraordinarily difficult. Likewise, just because Pavel Tsatsouline's five-week training program requires only two exercises a day using a single kettlebell doesn't mean you won't be cursing him every step of the way. There's a lot of work here, but if you stick with it you'll come out a stronger and leaner man on the other side.

Tsatsouline, the author of *Kettlebell: Simple & Sinister*, is a former Soviet special forces instructor and currently a subject matter expert to elite U.S. military and law enforcement special ops units. He cites Russian professor Victor Selouyanov's research with Russian national sports teams as inspiration for designing the plan you see here.

"When the Russians measured wrestlers' blood right after competition, they discovered the losers were more acidic than the winners," says Tsatsouline. "Instead of focusing on training to tolerate acidity better, Selouyanov decided to avoid acidity altogether and developed a meth-

odology for growing mitochondria, aerobic power plants in the muscle cells, in fast-twitch muscle fibers." This method trains you to minimize the formation of lactic acid and dispose of it easily.

So how do you build mitochondria? Tsatsouline says you need a high workload (you'll be lifting six days a week) paired with long rest periods.

As for the fact that this plan incorporates only a kettlebell and a pullup bar, Tsatsouline is steadfast in his belief that no training implement can rival the kettlebell. If barbells and dumbbells make up the majority of your training, you're about to get a serious shock to your system. Try the following for five weeks, and watch your strength soar.

PAVEL'S WARRIOR WORKOUT DIRECTIONS

KETTLEBELL SWINGS

Whenever you see swings in this programme, you'll be doing seven reps per minute for the prescribed number of sets. Seven swings will take about 10 seconds; rest for the remainder of the time.

KETTLEBELL PRESSES AND PULLUPS

On days when you see this exercise pairing, set a timer for eight minutes and begin the presses by cleaning a bell with one hand and pressing it overhead for the prescribed reps. Drop the bell and repeat with the other arm. Rest until the timer is up, then do pullups with little rest between sets.

SINGLE-ARM KB PRESS

Tense your body, crush the handle of the bell, and drive it straight up to a full lockout.

WEEK 1

MONDAY	EXERCISE	SETS	REPS
	KB Goblet Squat	3	5
	Russian KB Swing	10	7
TUESDAY			
	Single-arm KB Press*	3	5, 4, 3, 2, 1
	Weighted Pullup*	3	5, 4, 3, 2, 1
WEDNESDAY			
	KB Goblet Squat	3	5
	Russian KB Swing	13	7
THURSDAY			
	Single-arm KB Press*	2	5, 4, 3, 2, 1
	Weighted Pullup*	2	5, 4, 3, 2, 1
FRIDAY			
	KB Goblet Squat	3	5
	Russian KB Swing	16	7
SATURDAY			
	Single-arm KB Press*	3	5, 3, 2
	Weighted Pullup*	3	5, 3, 2

*Use timing instructions at left. Work from the highest rep to the lowest. For the press, switch arms each step of the ladder.

SUNDAY: ACTIVE REST

WEEK 2

MONDAY		
EXERCISE	SETS	REPS
KB Goblet Squat	3	5
Russian KB Swing	13	7
TUESDAY		
Single-arm KB Press*	4	5, 4, 3, 2, 1
Weighted Pullup*	4	5, 4, 3, 2, 1
WEDNESDAY		
KB Goblet Squat	3	5
Russian KB Swing	16	7
THURSDAY		
Single-arm KB Press*	2	5, 4, 3, 2, 1
Weighted Pullup*	2	5, 4, 3, 2, 1
FRIDAY		
KB Goblet Squat	3	5
Russian KB Swing	19	7

SATURDAY		
EXERCISE	SETS	REPS
Single-arm KB Press*	4	5, 3, 2
Weighted Pullup*	4	5, 3, 2

*Use timing instructions on page 71. Work from the highest rep to the lowest. For the press, switch arms each step of the ladder.

SUNDAY: ACTIVE REST

THE BELL WAR

AMERICAN VS. RUSSIAN: Which kettlebell swing reigns supreme?

American kettlebell swing: The bell is swung all the way overhead, resulting in arms fully extended vertically.

Russian kettlebell swing: The bell is swung to chest level, then brought back down between legs. **PAVEL SAYS:** "Overhead swings demand great thoracic and shoulder mobility. Without this mobility, you'll have to compensate by flaring your elbows, shrugging and hyperextending your back, thus inviting injury."

"If you're in the mood to lift the kettlebell overhead, do a kettlebell snatch. It also demands mobility, but not nearly as much as the overhead swing."

M&F SAYS: The hips are fully extended when the arms are at chest level, so increasing the ROM to overhead doesn't result in more power from the hips—it comes from the arms and back, which isn't where the power should be coming from.

THE WINNER: Russian swing.

RUSSIAN KB SWING

Stand behind the kettlebell with feet slightly wider than shoulder width and slightly turned out. Sit back and grip the handle with both hands. Keep your lower back arched and "hike" the kettlebell back between your legs. Explosively snap your hips open. Let the kettlebell float momentarily at chest level before smoothly guiding it back for another rep.



BELL SHOPPING

PAVEL SAYS: "There are two types of kettlebells: competition and traditional. Competition bells are made to the precise specifications of the kettlebell sport in which you snatch and jerk them for many reps. You can use competition bells for general strength and conditioning, but their handles are too narrow for two-handed kettlebell swings, at least for men."

"Traditional iron kettlebells are stockier than competition bells, with longer, lower, and thicker handles. This design makes the bell more comfortable for two-handed swings and challenges the grip more."

"For this workout plan, I suggest buying one 16 kg, 24 kg, and 32-pound traditional kettlebell. In alphabetical order, here are three brands you can't go wrong with: Dragon Door, Perform Better, and Rogue Fitness."



WEEK 3

MONDAY

EXERCISE	SETS	REPS
KB Goblet Squat	3	5
Russian KB Swing	16	7

TUESDAY

Single-arm KB Press*	2	6, 5, 4, 3, 2, 1
Weighted Pullup*	2	6, 5, 4, 3, 2, 1

WEDNESDAY

KB Goblet Squat	3	5
Russian KB Swing	19	7

THURSDAY

Single-arm KB Press*	1	6, 5, 4, 3, 2, 1
Weighted Pullup*	1	6, 5, 4, 3, 2, 1

FRIDAY

KB Goblet Squat	3	5
Russian KB Swing	22	7

SATURDAY

Single-arm KB Press*	2	6, 4, 2
Weighted Pullup*	2	6, 4, 2

*Use timing instructions on page 71. Work from the highest rep to the lowest. For the press, switch arms each step of the ladder.

SUNDAY: ACTIVE REST

KB GOBLET SQUAT

Focus on sitting back with your hips and opening your knees to achieve depth.

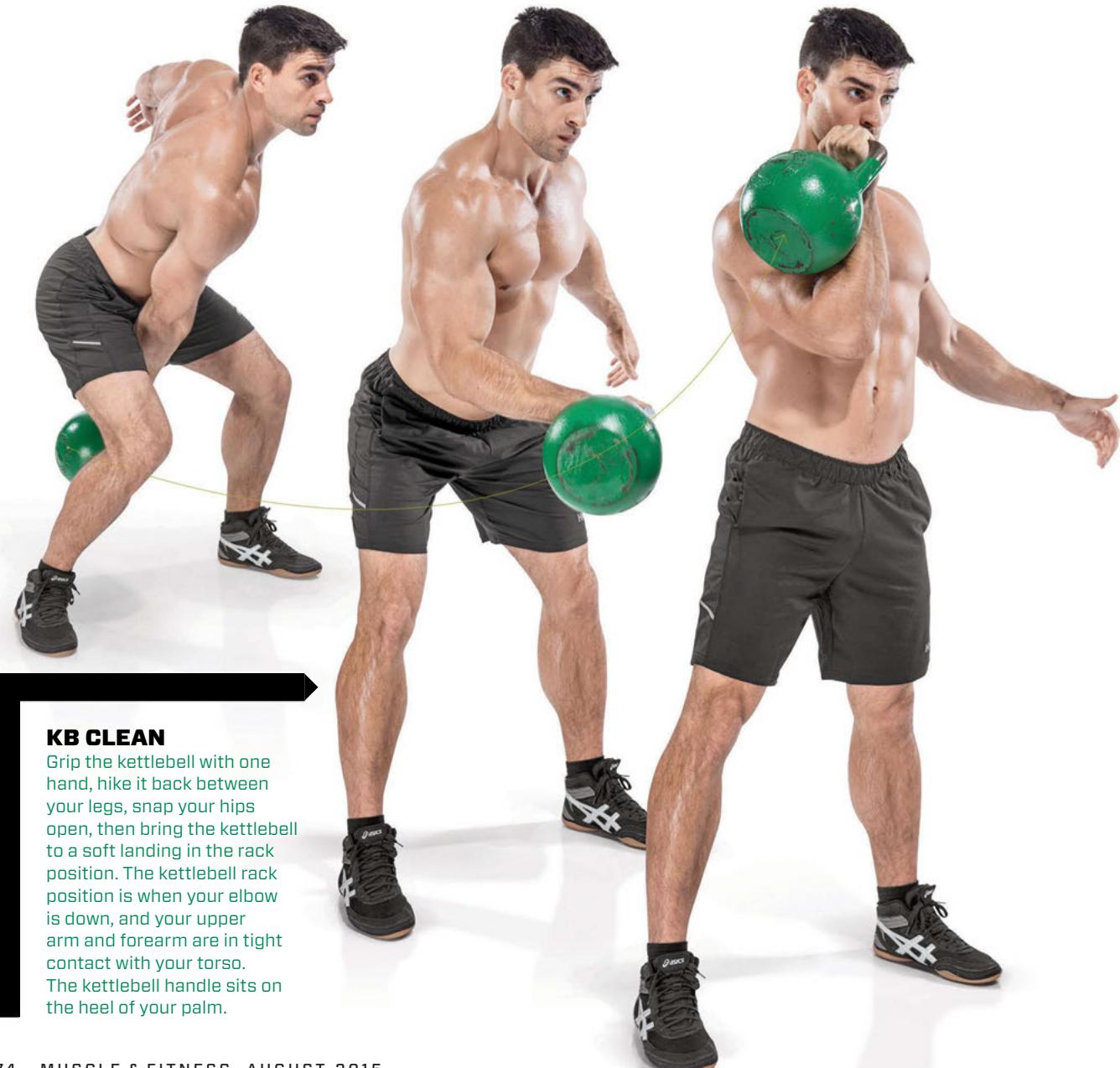
KETTLEBELL**WEEK 4**

MONDAY		
EXERCISE	SETS	REPS
KB Goblet Squat	3	5
Russian KB Swing	19	7
TUESDAY		
Single-arm KB Press*	3	6, 5, 4, 3, 2, 1
Weighted Pullup*	3	6, 5, 4, 3, 2, 1

*Use timing instructions on page 71. Work from the highest rep to the lowest. For the press, switch arms each step of the ladder.

WEDNESDAY		
EXERCISE	SETS	REPS
KB Goblet Squat	3	5
Russian KB Swing	22	7
THURSDAY		
Single-arm KB Press*	1	6, 5, 4, 3, 2, 1
Weighted Pullup*	1	6, 5, 4, 3, 2, 1

FRIDAY		
EXERCISE	SETS	REPS
KB Goblet Squat	3	5
Russian KB Swing	25	7
SATURDAY		
Single-arm KB Press*	3	6, 4, 2
Weighted Pullup*	3	6, 4, 2
SUNDAY: ACTIVE REST		



WEEK 5

MONDAY

EXERCISE	SETS	REPS
KB Goblet Squat	3	5
Russian KB Swing	20	7

TUESDAY

Single-arm KB Press*	2	6, 4, 2
Weighted Pullup*	2	6, 4, 2

WEDNESDAY

KB Goblet Squat	3	5
Russian KB Swing	10	7

THURSDAY

Single-arm KB Press*	1	6, 4, 2
Weighted Pullup*	1	6, 4, 2

FRIDAY

Single-arm KB Press	1	Failure
Weighted Pullup	1	Failure

SATURDAY

*Use timing instructions on page 71. Work from the highest rep to the lowest. For the press, switch arms each step of the ladder.

SUNDAY: ACTIVE REST

WEIGHTED PULLUP

Hang a kettlebell or weight plate from a dip belt and get to work. On every day but the final day of the program, your pullup “sets” will be long, descending ladders. (See workout boxes.) **M&F**



NO PAIN STILL GAIN

THE WEAR AND TEAR OF TRAINING HARD AND HEAVY IS REAL. WHETHER YOU'RE ALREADY EXPERIENCING JOINT PAIN OR WANT TO PREEMPTIVELY GIVE YOUR BODY A BREAK WHILE STILL MAKING PROGRESS, THIS IS THE PROGRAMME FOR YOU.

BY JUSTIN GRINNELL, C.S.C.S. /// PHOTOGRAPHS BY EDGAR ARTIGA

As a lifter, new or seasoned, you will face a time when the constant pounding of the weights will take its toll. Most of us have built the foundations of our strength and size with a barbell. Going heavy on the squat, deadlift, bench press, overhead press, and barbell row has made up the backbone of our routines for good reason: They work. But after a while, your body will start to rebel against you. Aching in your joints will start to hinder your progress. Your

strength will start to plateau, and building muscle will be a struggle. If you continue to lift this way with joint pain, you'll end up hurt.

The key to dealing with any training injury is to work as hard as you can on exercises that won't cause joint pain and will help you recover. The truth is, you can still build strength and muscle mass without the barbell. By implementing more work with machines and cables, you can keep joint pain at bay and set yourself up for success without having to stop training. Here's how it's done.

CABLE LATERAL RAISE

You can do two arms at once to save time, but doing cable lateral raises one arm at a time allows you to focus on the strength of each shoulder. Squeeze each rep at the top.



PROGRAM KEYS**JOINT MOBILITY**

Maintaining proper joint range of motion is key for any athlete, and not just because it's "healthy" in some vague sense of the word. By incorporating a sound dynamic warmup that focuses on improving range of motion in the hips, shoulders, and thoracic (upper) spine, you don't just help reduce the risk of injury, you will actually improve your performance.

SYMMETRY WORK

Barbell exercises are typically done with both sides of the body at a time (bilateral). Over time, this type of training can cause you to develop muscle imbalances. In order to balance out both sides of the body and improve your core strength, you need to include some unilateral training in your routine. Machines, cables, and dumbbells work well for this goal.

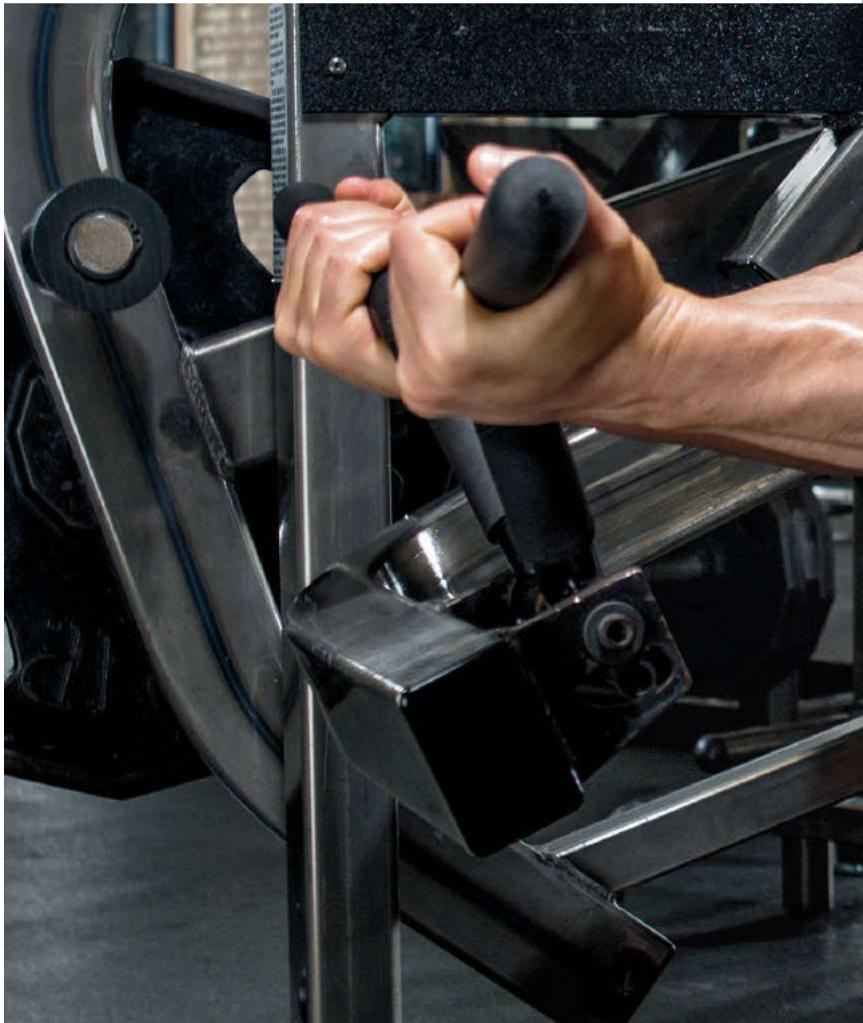
INTENSITY TECHNIQUES

There are three major ways you can build muscle: mechanical tension (lifting heavy), metabolic stress (think: going for the pump with high reps), and muscular damage (with long eccentrics and high volume). To compensate for a lack of mechanical tension with a barbell, increase the other two.

DYNAMIC WARMUP

Perform the following exercises straight through before the start of each workout.

EXERCISE	REPS
Foam Roller Back	5
Foam Roller Glutes	5
Knee-hug-to-chest into Walking Lunge	5 each side
Toe-touch Squat	10
Pushup	10
Lateral Lunge with Arms Overhead	5 each side
Skipping	2 min.

**THE WORKOUTS****► DIRECTIONS:**

Perform each workout on the days of the week prescribed. If you are not able to fit them in on these days, just make sure to space them out as much as possible. Perform any exercises labelled with letters A, B, C, etc., in sequence with minimal rest.



MACHINE PREACHER CURL

Because the machine is stabilized, these preacher curls may feel easy compared with a regular EZ-curl bar. But the stabilized setup allows you to keep the focus entirely on your biceps and utilize long negatives without pain in your shoulders or elbows.

LEGS**DAY 1 MONDAY**

EXERCISE	SETS	REPS	REST*
1 Dumbbell Goblet Squat**	4	10	90
2 Dumbbell Straight-leg Deadlift**	4	10	90
3A Lying Leg Curl ***	3	8/8/8	—
3B Hanging Leg Raise	3	8	90
4A Seated Calf Raise	3	10	—
4B Standing Calf Raise	3	20	90

*Based on seconds.

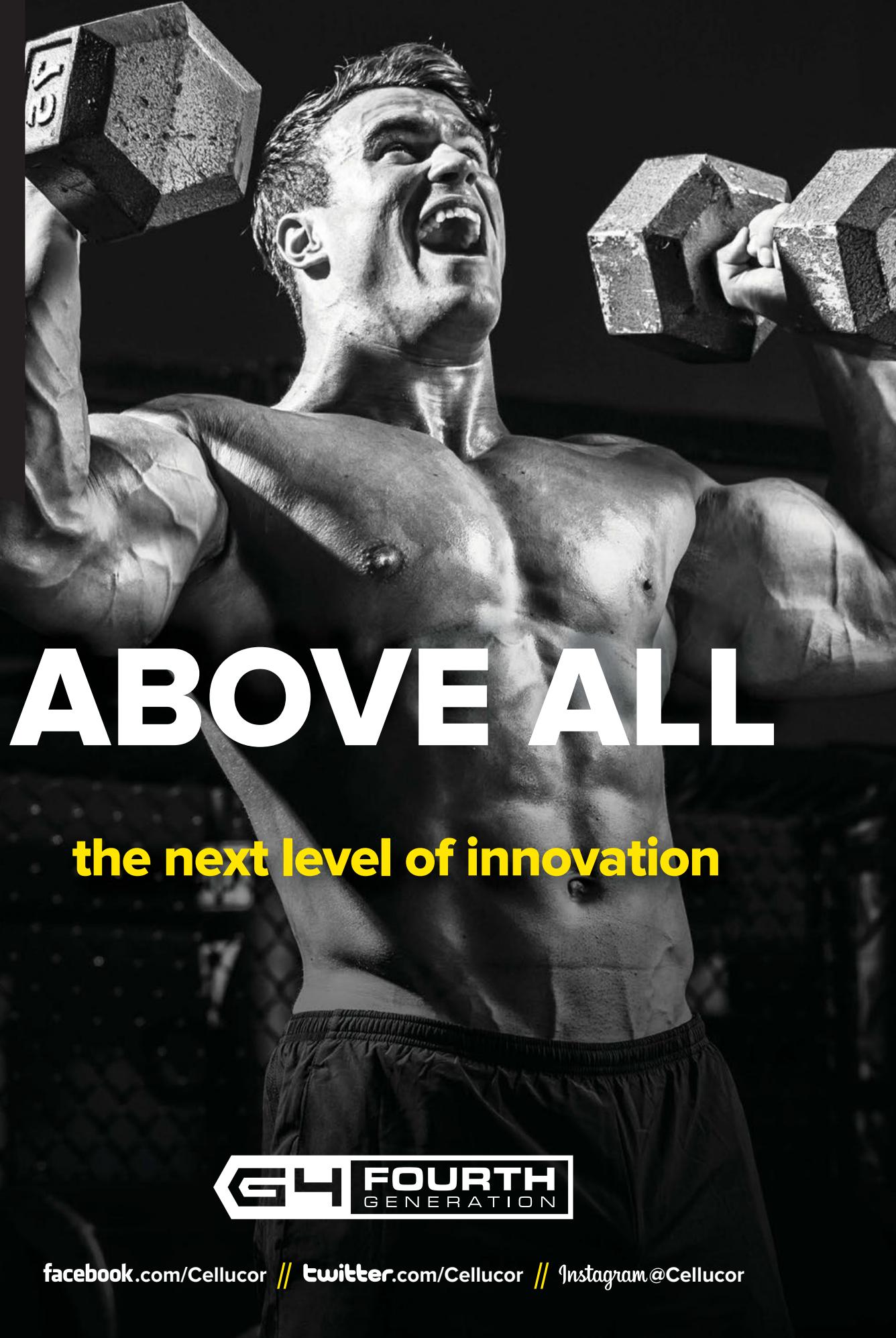
**Focus on a slow negative (eccentric motion), lowering the weight for four seconds.

***You will perform a set with a weight that you can handle for eight reps. Immediately drop the weight by 20% and perform eight more reps. Do this once again for a total of three times.



SEATED CALF RAISE

No matter how much volume you use, calves won't respond unless your reps are high quality. Hold each rep for a three count at the top, then slowly lower the weight.



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MACHINE SHOULDER PRESS

The range of motion in your shoulder joint opens you up to a host of potential injuries when pressing overhead. The machine press greatly reduces that risk.



CHEST, SHOULDERS, TRICEPS

DAY 2 TUESDAY

EXERCISE	SETS	REPS	REST*
1 One-arm DB Chest Press**	3	8	90
2 Cable Lateral Raise	3	10	90
3 Machine Shoulder Press***	3	8/8/8	120
4 Pushup	3	Failure	120
5A Rope Overhead Extension	3	15	—
5B Dumbbell Suitcase Carry	3	30m each side	60

*Based on seconds.

**Focus on a slow negative (eccentric motion), lowering the weight for four seconds.

***You will perform a set with a weight that you can handle for eight reps. Immediately drop the weight by 20% and perform eight more reps. Do this once again for a total of three times.

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ONE-ARM MACHINE ROW

Unilateral training doesn't just let you focus on one muscle at a time to get a better pump, it also helps balance your body's strength and mass. Correcting muscle imbalances will go a long way toward preventing and alleviating joint pain.

BACK-BICEPS

DAY 3 THURSDAY

EXERCISE	SETS	REPS	REST*
1 One-arm Machine Row	4	10-12	90
2 Machine or Cable Lat Pulldown **	4	10-12	90
3 Machine Pullover***	3	8/8/8	120
4A Ab-wheel Rollout	3	8	—
4B Machine Preacher Curl	3	8	—
4C One-arm Cable Curl	3	8	—
4D Dumbbell Suitcase Carry	3	30m each side	120

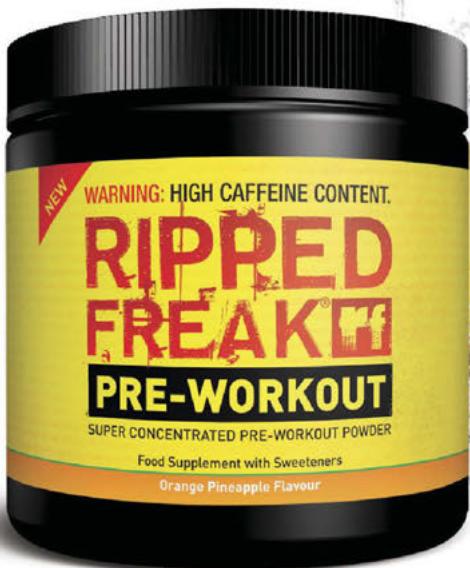
*Based on seconds.

**Focus on a slow negative (eccentric motion), lowering the weight for four seconds.

***You will perform a set with a weight that you can handle for eight reps. Immediately drop the weight by 20% and perform eight more reps. Do this once again for a total of three times.



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**TOTAL BODY****DAY 4 SATURDAY**

EXERCISE	SETS	REPS	REST*
1A Walking Lunge	3	8 each side	—
1B Chinup	3	8	—
1C One-arm Dumbbell Shoulder Press	3	8 each side	120
2A Machine Squat**	3	10-20	—
2B One-arm Machine or Cable Row	3	10-20	—
2C Machine Chest Press***	3	8/8/8	120
3A Cable Triceps Pushdowns	3	10-20	—
3B Cable Straight-bar Biceps Curl	3	10-20	—
3C Machine Donkey Calf Raise	3	10-20	120

*Based on seconds.

**Focus on a slow negative (eccentric motion), lowering the weight for four seconds.

***You will perform a set with a weight that you can handle for eight reps. Immediately drop the weight by 20% and perform eight more reps. Do this once again for a total of three times.

CARDIO

Do two to three cardio sessions each week on an off day or after one of the workouts. Alternate between the two cardio workouts.

► INTERVALS

Perform eight rounds of 30 seconds of high-intensity work and alternate it with 60 seconds of low-intensity work. This can be done on a treadmill, StepMill, or rower, or outdoors running or on a bike.

► STEADY STATE

Perform 30 to 45 minutes of moderate-intensity cardio. This can be done on a treadmill, StepMill, or rower, or outdoors running or on a bike.



MACHINE SQUAT

Get as low as you can without rounding your back. Foot position is the other big key; setting your feet high on the platform will be easier on your knees as you descend and will engage your glutes and hamstrings more. M&F



Upscale Dining



Fish is known as one of the cleanest and healthiest protein sources in the world—and it's easier to cook than you ever realized. With these recipes, it's also more delicious, too.

BY CHEF GAVAN MURPHY
PHOTOGRAPHS BY TRAVIS RATHBONE

SEAFOOD PROVENÇALE

SERVES 4

1 tbsp olive oil
 1 medium red onion, thinly sliced
 1 medium red bell pepper, thinly sliced
 1 medium yellow bell pepper, thinly sliced
 2 tbsp minced garlic
 ½ kg fresh tomatoes, chopped
 230 ml vegetable stock or water
 ¾ kg mussels, washed
 230 ml white wine
 230 ml clam juice
 ½ kg littleneck clams, washed
 Zest of 1 lemon
 10 fresh jumbo scallops
 Salt and pepper, to taste
 ½ kg medium prawns peeled and deveined
 2 tbsp chopped fresh basil

- 1) Heat oil in pan, then sauté onion, peppers, and 1 tbsp garlic over medium heat for 15 minutes. Add tomatoes and stock; simmer.
- 2) In another hot sauté pan, add mussels, ½ tbsp garlic, 110 ml wine, and 110 ml clam juice. Cover and cook mussels until all shells open. Drain in a colander and reserve remaining liquid. Repeat process with clams.
- 3) Strain reserved mussel and clam liquid; add liquid and lemon zest to tomato sauce.
- 4) Season scallops with salt and pepper and sear in a sauté pan 30 seconds each side; set aside. Sear prawns in same pan 2 minutes each side. Add seafood to sauce; simmer 20 minutes on medium-low. Add basil; stir.

MACROS PER SERVING

746 CALORIES	68g PROTEIN	39g CARBS	14g FAT
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SESAME GLAZED SALMON

SERVES 2

Olive-oil spray
 2 (170g) wild salmon fillets
 1 tbsp whole-grain mustard
 1 tbsp agave nectar
 ¼ tsp balsamic vinegar
 ¼ tsp dried chili flakes
 ¼ tsp toasted sesame oil
 ½ tsp finely chopped Thai basil (optional)

FOR GREEN BEANS:

½ kg green beans, trimmed
 4 tsp chopped fresh dill
 1 tbsp minced shallot
 1 tbsp extra-virgin olive oil
 1 tbsp lemon juice
 1 tsp whole-grain mustard
 ¼ tsp salt
 ¼ tsp freshly ground pepper

DIRECTIONS FOR SALMON:

- 1) Preheat oven to 200°C.
- 2) Cover an oven tray with aluminum foil and spray with olive-oil spray.



CHEF'S TIP

The easiest way to see if your fish is cooked through is to pierce it, very carefully, with a small knife in the center of the fish. Remove and gently touch your lip with the end of the knife. If it feels hot, the fish is done.

- 3) Place the salmon, skin-side down (if you have the skin on) on the oven tray.
- 4) In a bowl, mix together mustard, agave, vinegar, chili flakes, sesame oil, and basil. Pour on top of salmon. Bake for about 10 minutes, or until the salmon reaches an internal temperature of 70°C.

DIRECTIONS FOR GREEN BEANS:

- 1) Bring an inch of water to a boil in a large sauté pan. Add green beans, cover, and cook until tender-crisp, about 2-3 minutes. Remove from heat and keep warm.
- 2) In a bowl, whisk together dill, shallot, oil, lemon juice, mustard, salt, and pepper. Add the still-warm green beans and toss to coat. Cover. Let stand for 5 minutes before serving to blend flavors.

MACROS PER SERVING

599 CALORIES	63g PROTEIN	27g CARBS	27g FAT
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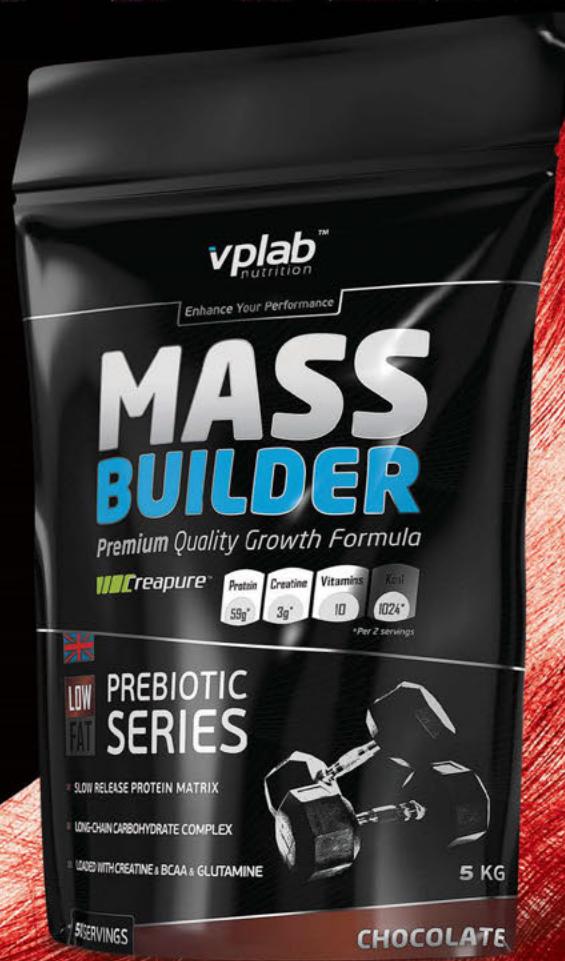
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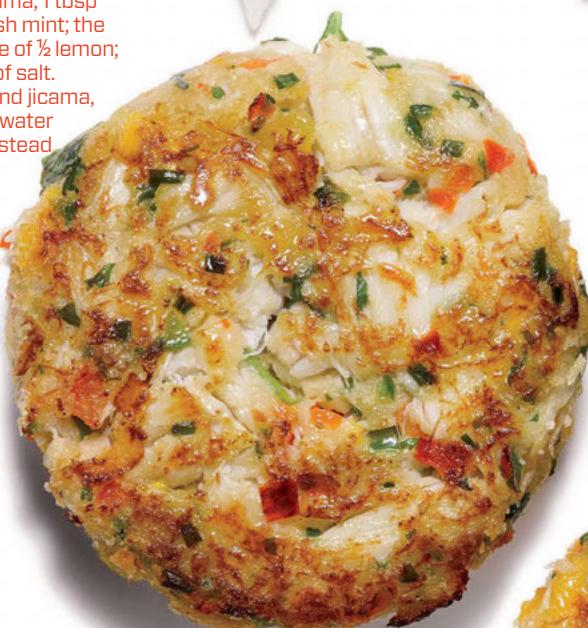
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*Results may vary. For best results, use product in conjunction with rigorous training and an appropriate diet for your training goals



CHEF'S TIP

Serve with jicama-mint slaw for a refreshing side: Combine 450g peeled, juliened jicama; 1 tbsp chopped fresh mint; the zest and juice of $\frac{1}{2}$ lemon; and a pinch of salt. If you can't find jicama, use mooli or water chestnuts instead.



MANGO-JALAPEÑO CRAB CAKES

SERVES 4

1 tbsp olive oil
56 g finely diced red bell pepper
2 tbsp finely chopped jalapeño pepper, seeded
225 g bread crumbs
3 tbsp chopped fresh coriander
2 tbsp finely chopped chives
225 g finely diced mango
1 whole egg
2 egg whites
Zest of $1\frac{1}{2}$ lemons
Salt and pepper, to taste
 $\frac{1}{2}$ kg fresh crab meat
Olive-oil spray

1) Preheat a small sauté pan over medium-low heat for 1 minute. Add olive oil and sauté red pepper for 3 minutes, or until soft. Remove from heat and set aside to cool.

2) In a large bowl, combine all remaining ingredients except crab and olive-oil spray. Once red peppers have cooled, add to mixture along with crab and combine.

3) Using a 55g measuring cup, make individual crab cakes. Set aside.

4) Preheat a large sauté or grill pan over medium heat. Spray with olive-oil spray and sear each cake for 3-4 minutes on each side, or until golden brown and warmed through.

MACROS PER SERVING

308 CALORIES	32g PROTEIN	26g CARBS	8g FAT
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ASIAN STEAMED SEA BASS

SERVES 4

170 ml mirin
170 ml sake
2 tbsp minced fresh ginger
2 medium courgette
2 medium yellow squash
2 medium carrots
Drizzle of olive oil
4 (110g) Asian (black) sea bass fillets
Salt and white pepper, to taste
110 ml chicken or vegetable stock

- In a saucepan, stir together mirin, sake, and ginger. Set on medium-low heat and cover until needed.
- Slice courgette, squash, and carrots lengthwise, 3 mm thick. Then cut into thin

strips to form spaghetti-like strands. Set carrots aside.

- Preheat a sauté pan over medium heat. Add a drizzle of olive oil and sauté carrots for 1 minute.
- Season the fish with salt and white pepper, add to mirin mixture, and cover. Steam for 10–12 minutes, or until firm.
- Add chicken stock to carrots and bring to a boil, then reduce heat.
- Add courgette and squash to carrots, season with salt and white pepper, and cover. Simmer until tender; the vegetables should still hold their spaghetti shape, so be careful not to overcook.
- Remove all food from heat. Arrange vegetables on plate, top with fish, and serve.

MACROS PER SERVING

320 CALORIES	30g PROTEIN	31g CARBS	4g FAT
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ROASTED HALIBUT

SERVES 4

½ kg halibut, cut into 4-oz portions
Salt and pepper, to taste
Drizzle of grape-seed oil
Drizzle of olive oil
450 g cherry tomatoes
2 cloves garlic, minced
76 ml white wine
110 ml chicken or vegetable stock
75 g kalamata olives, pitted and halved
85 g marinated artichokes
Zest of ½ lemon

- Preheat a sauté pan over medium-high heat. Season fish with salt and pepper. When the pan is hot, add a drizzle of grape-seed oil. Sear fish until golden brown, about 3–4 minutes each side.
- Remove the fish and place in a foiled roasting tray.



3) Wipe out the sauté pan with a paper towel and place it over medium heat. Add a drizzle of olive oil. Once hot, add whole cherry tomatoes and sauté until they begin to blister, about 3–4 minutes.

4) Add garlic to tomatoes and sauté for 20 seconds. Deglaze (a flashy term for “add liquid”) the pan with wine and stock; bring to a boil, then reduce heat and simmer 3–4 minutes.

5) Preheat oven to 185°C. Cook fish for 5–6 minutes, or until firm.

6) While fish is cooking, finish the sauce: Add olives, artichokes, and lemon zest to the pan with the tomatoes; cook for 5 minutes.

7) Once the fish is cooked, remove from oven and let sit for 3–4 minutes. If any juice comes out, add it to the sauce.

8) Set fish on plate and spoon sauce over it. If desired, serve fish on a bed of wilted spinach.

MACROS PER SERVING

355 CALORIES	28g PROTEIN	8g CARBS	22g FAT
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CHEF'S TIP

Wait to season your fish until you are ready to sear. If you let salt sit on fish, it will pull out moisture.

CAJUN CATFISH TACOS

SERVES 4

FOR SALSA:

1 red tomato, diced
2 tsp finely diced red onion
2 tbsp chopped fresh coriander
2 tbsp fresh lime juice
Salt and pepper, to taste

FOR SLAW:

2 tbsp red-wine vinegar
2 tbsp Dijon mustard
2 tbsp chopped fresh coriander
4 tbsp olive oil
1 tsp agave nectar
450 g shredded cabbage or prepackaged coleslaw mix

FOR FISH:

Drizzle of olive oil
1/2kg wild catfish fillets
Cajun spice of your choice
8 corn tortillas
1 avocado, diced

1) Make the salsa: In a bowl, combine all the salsa ingredients. Set aside.

2) Make the slaw: In a bowl, whisk together vinegar, mustard, coriander, olive oil, and agave. Add the cabbage, toss, and refrigerate until needed.



CHEF'S TIP

A lot of fish tacos have a mayo-based sauce; this is more like a vinaigrette, which has a cleaner taste and is much healthier.

3) Prepare fish: Preheat a grill pan over high heat. Drizzle with olive oil. Season fish with Cajun spice on both sides. Cook fish for about 4 minutes on each side, or until firm to the touch.

4) Warm the tortillas in a pan.

5) To assemble tacos, add slaw to tortillas, then layer with fish and salsa. Top with avocado. **M&F**

MACROS PER SERVING

476 CALORIES	26g PROTEIN	32g CARBS	29g FAT
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POWER-BUILDING

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and **FREAK STRENGTH**
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BY DON SALADINO ///
PHOTOGRAPHS BY JASON ELLIS



W

When you've been in the iron game a while, you begin to ask yourself some tough questions: How do I maximize size without sacrificing strength? How do I get stronger without getting injured? In short, how can a lifter have it all—muscle, power, and pain-free joints to enjoy the benefits? The answer is a combination of powerlifting and bodybuilding programming, colloquially known as "powerbuilding," blended in the formula we offer here. See results in six weeks! Seriously.

The Dynamic Duo

Our program is a mix of the Westside Barbell powerlifting template and old-school, high-volume bodybuilding. The "Westside Conjugate Method," as it's known, is a system that alternates heavy workouts and lighter ones. The heavy days are called "max effort" sessions because you work up to a max, the heaviest weight you can use for reps in the one to five range. The lighter days can be done in two different ways.

Most lifters who powerbuild along the lines of a Westside program do the lighter workouts exclusively with higher reps and go for the pump, and that works fine to build muscle. Our routine includes plenty of pump work, but we're also making use of the "dynamic effort method" (DE)—a technique whereby you lift light weights explosively. Even though the weight may not feel challenging, moving it as quickly (and violently) as

you can trains your nervous system to recruit the biggest, strongest muscle fibers, and it helps you overcome sticking points. If your bench press usually stalls midway through a rep with a heavy weight, DE can help you develop the speed off your chest to blast through.

Lifting for Life

Of course, building muscle and setting PRs isn't much fun if it wrecks your body in the process. Heavy training is hard on the joints, but by rotating your main lifts and generally changing up the workouts on a weekly basis, you can avoid the overuse and overtraining injuries that plague so many lifters. The main lift in each max-effort workout should be switched every week. In fact, you can switch out practically every exercise in the programme week to week if you like—just follow the basic template we set up here. (It includes two weeks of sample workouts.)

On the first max-effort day, for instance, when you'll train your chest and biceps, stick to three to four chest exercises and three biceps lifts per session, but the exact exercises you pick are up to you. The main lift can be a bench press one week, then an incline press the next, and a floor press after that if you'd like. Feel free to experiment and find exercises that work best for you and keep the workouts fun.

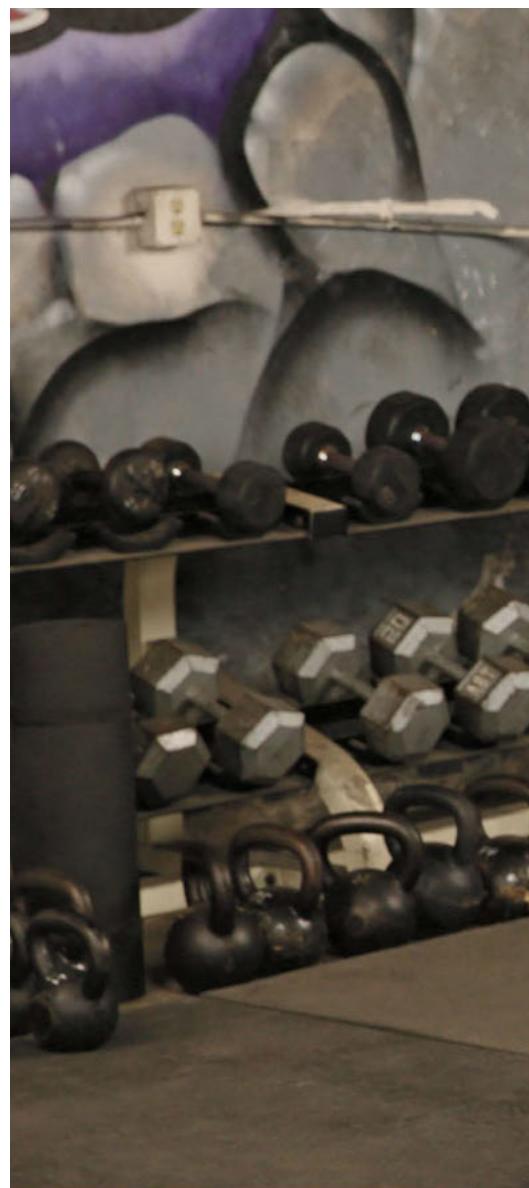
DIRECTIONS

THE SCHEDULE

You'll perform two max-effort and two dynamic-effort workouts per week, rotating through a body-part split of chest and biceps, back, legs, and shoul-

ders and triceps. Note that it will take two weeks to work each body part with both the max- and dynamic-effort methods—follow the template for how

they fit together. Day 3 in each training week is for cardio and recovery. It will help improve your performance in the workouts as well as protect against injury.





BACK EXTENSION

Be sure to hinge at the hips when you perform each rep. Your lower back shouldn't round over on the descent. Always squeeze your glutes as you extend your hips to come up.

**PULLOVER**

Lower the weight until you feel a stretch in your lats and then pull it back over your face, not your chest.

DAY I: **CHEST, BICEPS**

(MAX EFFORT)

EXERCISE	SETS	REPS
Bench Press (any variation)	As many as needed	Work up to 3-5RM
Dumbbell Bench Press	4	8
Machine Flye	5	12-15
Seated Dumbbell Curl	4	8
Hammer Curl	2	10
Barbell Curl	4	10-12

DAY II: **BACK**

(DYNAMIC EFFORT)

EXERCISE	SETS	REPS
Pullup	8	3*
Chest-supported Row	4	10-15
Reverse-grip Pulldown	4	10
One-arm Dumbbell Row	3-4	10
Pullover	3	15-20

STRENGTH

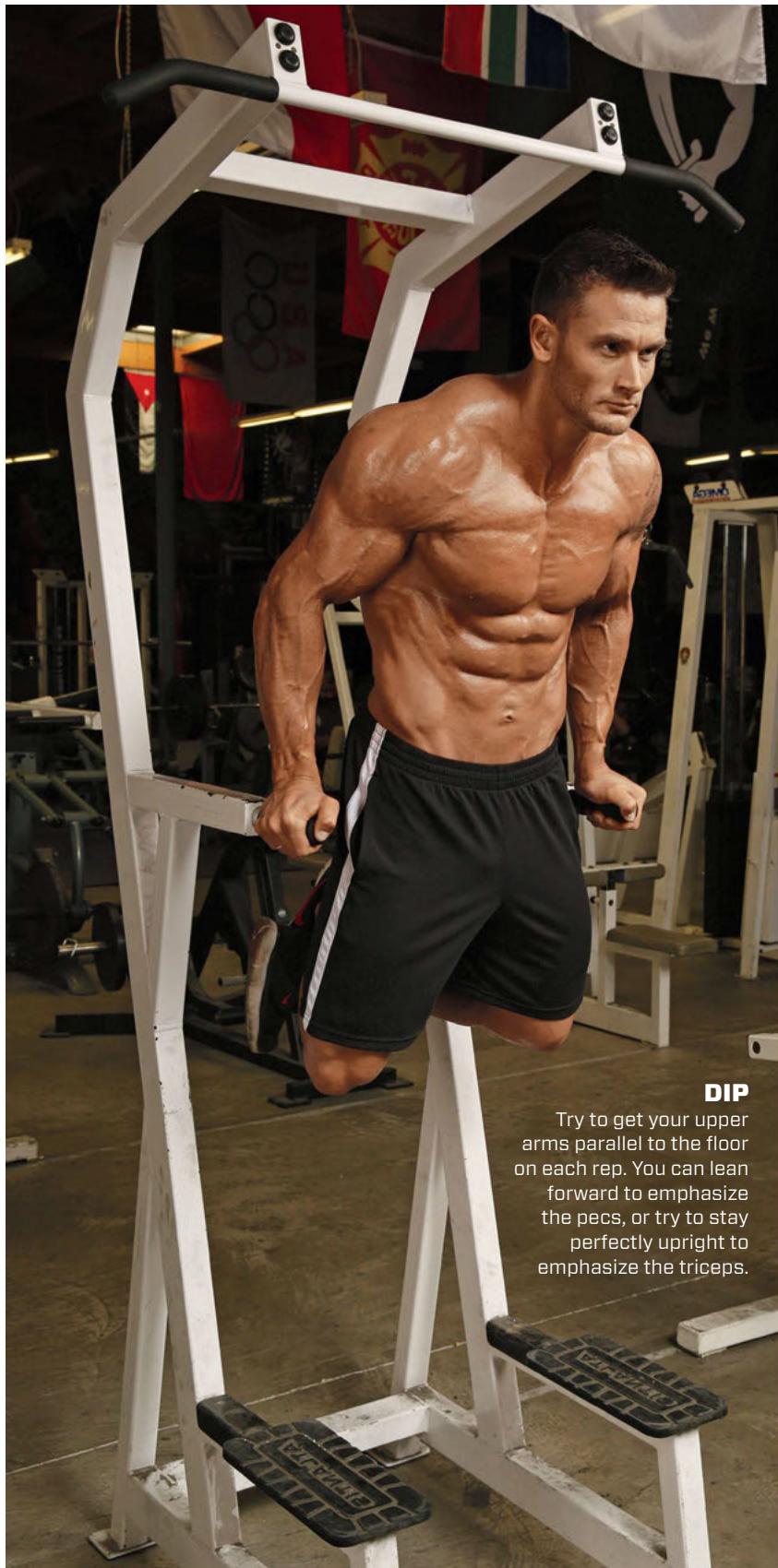
MAX-EFFORT TRAINING

Max-effort workouts focus on improving one main lift. To do that, you need to train heavy. Warm up thoroughly and then choose a variant of whatever the main exercise is (some type of squat, bench press, deadlift, or overhead press), and begin working up in weight slowly. Add weight in small increments and keep your reps to five or fewer until you reach a load that allows you only three to five reps. When you've maxed out those reps, move on to the next exercise.



REVERSE-GRIP PULLDOWN

Pull the bar down to your collarbone. The palms-toward-you grip hits the biceps more directly than conventional pulldowns.



DAY III: **CARDIO**

Use the exercise of your choice to raise your heart rate to a moderate level (120–140 beats per minute) and keep it there for 30 to 60 minutes. Afterward, foam roll and stretch.

DAY IV: **LEGS**

(MAX EFFORT)

EXERCISE	SETS	REPS
Squat (any variation)	As many as needed	Work up to 1-5 RM
Unilateral Leg Press	3-4	10-12
Goblet Squat	2	11-12
Leg Extension	3	8
Glute-ham Raise, Back Extension, or RDL**	4	As many as possible
Leg Curl	3	15



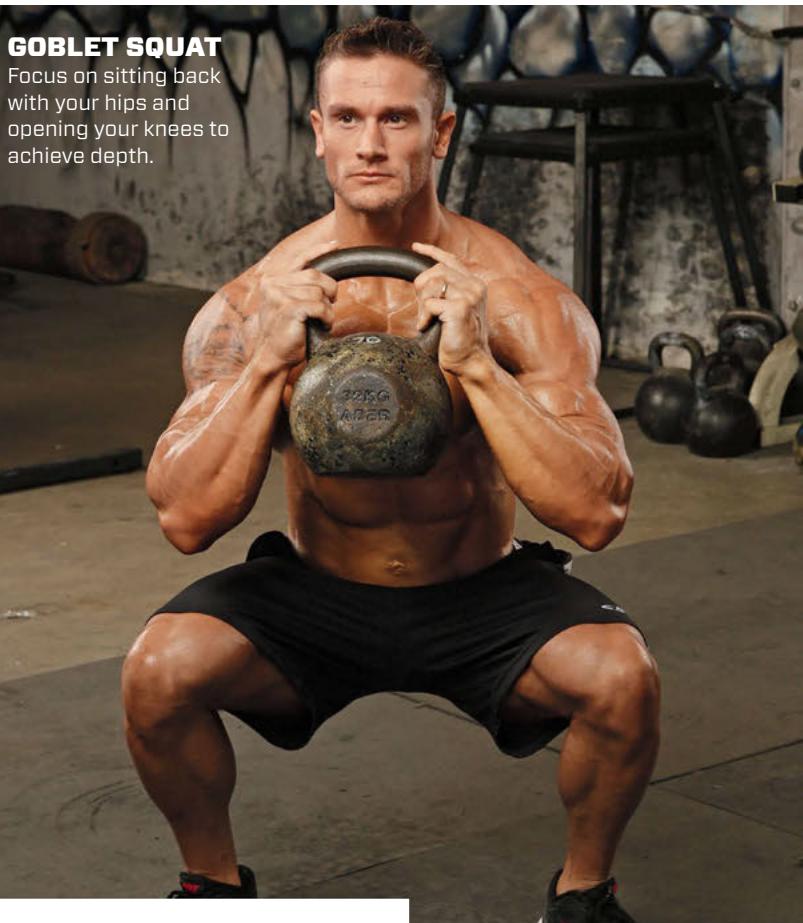
DAY V: SHOULDERS, TRICEPS

(DYNAMIC EFFORT)

EXERCISE	SETS	REPS
Seated Overhead Press (any variation)	8	3*
Seated Dumbbell Lateral Raise	4	10-12
Machine Rear-delt Flye	4	11-12
Close-grip Bench Press	4	6-8
Dip	4	10-12

ABOUT THE TRAINER

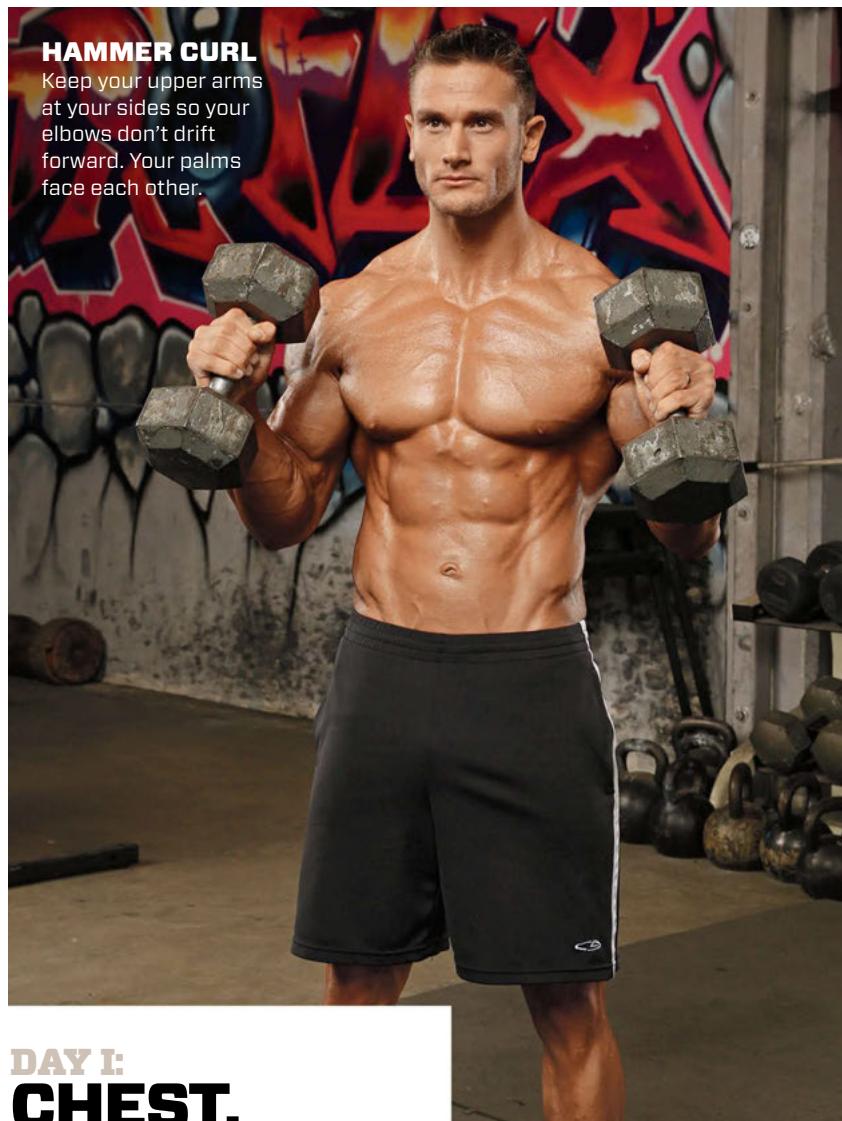
Don Saladino is a trainer to celebrities and athletes. He owns Drive495 in New York City.
donsaladino.com



SPEED

DYNAMIC-EFFORT TRAINING

The goal of dynamic-effort work is to move a weight as fast as possible. (Note that when doing DE pullups on back day, you'll be lifting your body weight.) Aim for 60-70% of your max on these exercises and keep the reps to three. If that feels too heavy, or your latter few sets get sluggish, reduce the weight. The point is to be as explosive as possible—while maintaining perfect form—so don't get anxious to add weight.



DAY I: **CHEST, BICEPS**

(DYNAMIC EFFORT)

EXERCISE	SETS	REPS
Bench Press (any variation)	8	3*
Incline Dumbbell Press	4	10
Pushup on Handles	3	As many as possible
Dumbbell Flye	3	8
EZ-bar Curl	4	8
Hammer Curl	2	10-12
Incline Dumbbell Curl	4	10-12

DAY II: **BACK**

(MAX EFFORT)

EXERCISE	SETS	REPS
Deadlift (any variation)	As many as needed	Work up to 1-5 RM
Lat Pulldown	4	12
T-bar One-arm Row	4	10
One-arm Pulldown	4	12-15
Straight-arm Pulldown	2	15

DAY III: **CARDIO**

Use the exercise of your choice to raise your heart rate to a moderate level (120–140 beats per minute) and keep it there 30 to 60 minutes. Afterward, foam roll and stretch.

DAY IV: **LEGS**

(DYNAMIC EFFORT)

EXERCISE	SETS	REPS
Leg Press	10	3*
Hack Squat	4	12
Bulgarian Split Squat	3	15
Seated Leg Curl	3	15
Lying Leg Curl	2-3	12-15
Farmer's Walk	4	50-100 yards

DAY V: **SHOULDERS, TRICEPS**

(MAX EFFORT)

EXERCISE	SETS	REPS
Overhead Press (any variation)	As many as needed	Work up to 1-5 RM
Cable Lateral Raise	4	10-12
Face Pull	4	12-15
Skull Crusher	4	10-12
Triceps Pushdown	4	12-15

*For pullups, simply perform reps as explosively as possible on both the positive and negative phases. On the unilateral leg press, choose a moderate weight you can move explosively with one leg. (Perform three reps on one leg, switch legs and do three, and then rest.) For the other exercises that are done with dynamic effort, choose a load that is 60–70% of your one-rep max. Rest 60 seconds between all dynamic-effort sets.

If you don't have a glute-ham bench, try a weighted back extension or Romanian deadlift for sets of 15. **M&F



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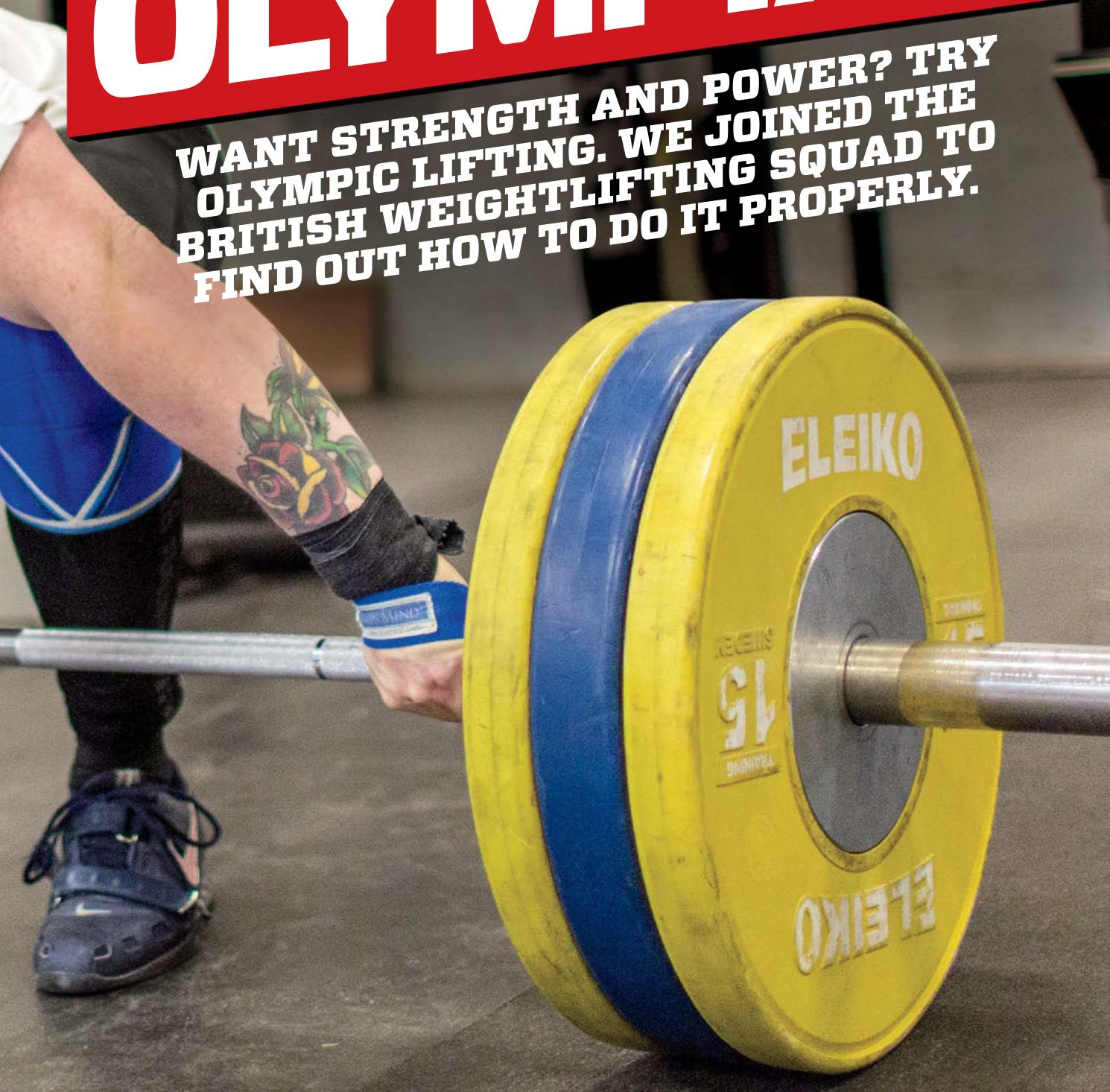
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by Matt Turner // Photographs by Christopher Bailey

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OTHING BUILDS STRENGTH AND POWER LIKE OLYMPIC LIFTING. TOMMY YULE, PERFORMANCE DIRECTOR FOR BRITISH WEIGHTLIFTING AND A TWO-TIME COMMONWEALTH GAMES WEIGHT-LIFTING MEDALLIST, SAYS IT IS ALSO THE MOST EFFICIENT USE OF YOUR GYM TIME.



Zoe Smith, Britain's leading female weightlifter, training at Loughborough University.

"Olympic lifting challenges your body in a way that is relevant to how you function in normal life," Yule says. "It's multi-joint. It's about strength and power. If you can do the Olympic lifts you're getting a lot out of a single exercise. If you're not doing them, you'll need three or four other exercises to get the same benefit."

Olympic lifting also improves performance in other key exercises. "You

don't see Olympic lifters struggling to deadlift, squat, or press," says Yule. "Investing some time into Olympic lifting pays dividends in all aspects of your training."

GETTING STARTED

We recently caught up with Yule and some of Britain's best weightlifters, including Olympians Zoe Smith and Jack Oliver, to find out how to get

TOMMY'S TOP TIPS

1. Don't give up. People often over-complicate lifting technique and make it sound more difficult than it really is. You perform much more complex skills than lifting a bar from the floor to your shoulders. Believe in yourself.
2. Keep up with your normal training while learning the lifts. You're not getting stronger or more powerful by working with 20 kg; you're just learning the technique.
3. If you're not making progress, look at why and fix it. Is it technical, psychological or physical? People always assume it's technique, but that's often not the case. It might be that your back isn't strong enough and your technique is actually fine. If you don't feel comfortable with being powerful, it's a psychological issue. Work on feeling powerful by doing some plyometrics.



MOST COMMON MISTAKES

1. Bending the arms too early in the lift. These are lower-body/back lifts. They're about legs, glutes, and back. If you're using your arms you're trying to apply force with a weaker body part and not using your strengths. You only use your arms at the end of the lift as you extend the weight overhead.

2. Softness in the back. People get away with having a rounded back while squatting or deadlifting. You can't do that in Olympic lifting if you want to transfer the forces to accelerate the bar. You need to keep a rigid, strong, fixed curvature throughout the lift.

3. Catching the weight incorrectly. In the clean, you should be able to front squat from the position you catch the weight in. If you can't, you've caught it wrong. Don't do a squat snatch if you can't do an overhead squat. If you're getting awkward squatting down, your back's curved and your shoulders are rotated, then don't do a full snatch – just do a power snatch.

4. The bar not brushing the thighs. If the bar doesn't brush your thighs as it moves upwards, it's not right. It should be so close it brushes your thighs.

started. The coach was keen to begin by pointing out that Olympic lifting is not as daunting as it might seem when you're watching the world's elite on TV; in fact, if you can deadlift and front squat you're halfway there already.

"If you can front squat, even if it's just a partial front squat, you're used to having weight on the front of your shoulders in the correct posture," says Yule. "If you can deadlift as well, you've already got two elements of the Olympic lifts down – the start and the end."

Plyometrics are also beneficial. "Get comfortable being powerful by doing a few box jumps," says Yule. "Then

Jack Oliver, the highest placing Brit at the London Olympics.

start adding some weight and doing jumps with dumbbells or some kettlebell swings."

More and more commercial gyms are installing lifting platforms, which allow you to drop the bar, and these days you're rarely far from a CrossFit gym, where you'll almost certainly find everything you need. You could also go down the traditional route and find your nearest weightlifting club. British Weightlifting's website contains a list.

You should use an Olympic bar weighing 20 kg and 2.2 m long (15 kg and 2.10 m for women). "Using



Above Sarah Davies demonstrates.

a fixed barbell isn't great for your wrists," says Yule. "You'll also find you can't catch the weight as well because you're lifting the whole weight around, whereas with Olympic weights you're spinning the bar so the weights don't have to move."

Lifting straps are a worthwhile investment. "You don't want to be relying on grip strength alone, especially when doing hangs," says Yule. "Your grip might be strong, but your legs, glutes, and back are much stronger. If you're limiting the weight to what you can hold you're probably not lifting as heavy as you could be."

Belts are an individual preference. Yule says: "In the clean and jerk, a lot

THE CLEAN AND JERK

1. The Start: Place your feet hip-width apart, bend over and grab the bar with a shoulder-width grip. Drop into a squat position, back flat, arms straight and hips above your knees. Look straight ahead.

2. The Pull: Explosively pull the bar with your legs, hips, and back, keeping the bar close to your shins. Note that's just "close"; it should not touch your shins or knees as it rises but it will brush your thighs.

3. The Second Pull: Triple-extend your ankles, knees, and hips, rising on to your toes.

4. The Catch: With your body now extended, shrug your shoulders and drop under the bar, going into a full

squat as the bar passes your chest. Thrust your elbows out in front, turn your wrists over the bar and receive it on top of your clavicles and delts, just like in a front squat.

5. The Stand: Once you've caught the bar, stand up straight. See where being able to front squat comes in handy?

6. The Jerk: Dip slightly at the knees and hips, then explosively extend your knees, hips, and powerfully extend the bar upwards over your head. From here, some lifters will just squat down, while others will put one leg forwards and one behind, both feet landing at the same time. Whichever you choose, this is just to help catch the weight overhead. Finally, bring your feet together – if you split – stand up straight. Job done.

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of people do use belts because it's a bigger load and requires a lot more force, which a belt can help with. People who are just starting out don't need them."

Yule recommends a single guided Olympic lifting session to get to grips with the fundamentals followed by another 19 practice sessions. "By then you should be happy with the technique," he says.

PROGRAMMING

After 20 sessions, you should be ready to either introduce some dedicated Olympic lifting days into your weekly programme or incorporate some moves into your standard routine.

If you choose the former, a session might look something like this. "When you're fresh at the start, do something requiring speed like a power snatch or full snatch for three reps," says

THE SNATCH

1. The Start: The second Olympic Games weightlifting movement. Place your feet hip-width apart. Bend down and grab the bar with a wide grip of around 30 inches, depending on your height and flexibility. Drop into a squat position with your back flat, arms straight, and hips above your knees. Look straight ahead.

2. The First Pull: Lift with your legs, glutes, and back. Keep the bar very close to your shins without touching them or your knees as you lift the bar; it will brush your thighs on the way up.



Above Jack Oliver shows correct technique.

3. The Second Pull: Once the bar is above your knees, use all your power to triple extend your legs, rising on to your toes.

4. The Catch: As you extend, shrug your shoulders and pull yourself under the bar, dropping into a full squat. As the bar passes your head, turn your wrists over and push the bar to

full lockout by driving with your shoulders and triceps. You should now be in a full squat position with your trunk erect, arms locked at the elbows and the bar directly overhead.

5. The Stand: Once you have the bar under control, stand up straight keeping the bar directly over your ankles and hips. Now safely drop the bar.



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HANGING ABOUT

Olympic lifters mainly use variations on the snatch and clean and jerk to improve on weaknesses and build extra power and strength in key areas, and so can you. In fact, even if you don't fancy learning the full lifts, it's worth adding some hang cleans, power cleans, and push presses to your repertoire. Details on how to perform the lifts mentioned below can be found on the M&F website:

Power lifts, e.g. power clean and power snatch: They're called power lifts because the weight is lower, meaning you can lift faster. You're also able to catch the weight higher up rather than squatting down to catch it. An Olympic lifter will do these to have an easier day, as you need variation in loading every now and then, and this allows you to train maximally with lighter weights. They're also a good alternative if you can't do the full lift.

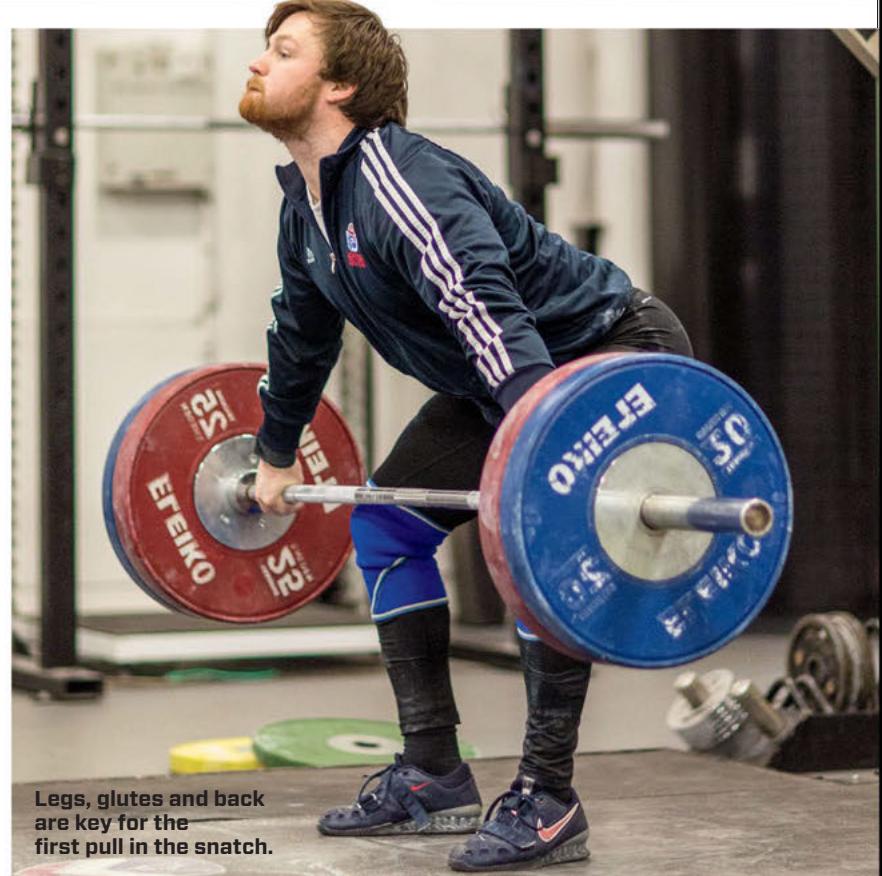
Hangs, e.g. hang clean and hang snatch: Here you're changing the start position of the lift, taking the first part out to focus on the powerful part. It allows you to do more volume on a key part of the lift without having to pull from the floor.

Push press: You can use just the final part of the jerk to build a little extra power in your shoulders.

Pulls, e.g. high pull: Pulls are good strength builders. If you can snatch 100 kg but can't manage 105 kg, you can get stronger by just doing pulls with 105-110 kg, giving you the potential to lift heavier in the full lift.

Yule. "Then move on to something that assists from a strength perspective, something like high pulls. If you can snatch 80 kg, do high pulls with a heavier weight or the same weight but for five or six. Then finish off with something even more strength-based, like a squat."

If you'd rather combine Olympic lifting into your routine, Yule suggests the following on back day. "If



Legs, glutes and back are key for the first pull in the snatch.

you're deadlifting, start off with some power cleans as a warm up. If you're going to deadlift 200 kg, start by power cleaning 60, 80, 90 and 100 kg for two sets." Alternatively, if you're training shoulders, Yule recommends starting with some push presses or jerks.

If you're serious about Olympic lifting, employ variations of the core lifts to improve on weaknesses in technique and strength. For example, if you're struggling with the second pull portion of your clean and jerk, do some hang cleans or lift from blocks to focus on improving that area. **M&F**

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SUPPS

THE LATEST IN SUPPLEMENT AND PRODUCT NEWS

Under the Microscope:

Taking a purely scientific look at the best products in the world of sports supplements **BY TIM N. ZIEGENFUSS, PHD, FISSN**

MEGATRON is a powerful, caffeine-free powdered pre-workout formula designed to improve muscle pumps/volume, strength, and exercise capacity. It contains a wide array of research-proven ingredients, including beta alanine, citrulline malate, betaine, taurine, L-carnitine, amentoflavone, and piperine among others.

BETA ALANINE is a widely popular amino acid in many types of athletes because it reduces muscle fatigue during intense exercise. When beta alanine is ingested, it combines with another amino acid called histidine to form a potent compound called carnosine. In exercising muscle, carnosine acts as a potent buffer of hydrogen ions that are generated from lactic acid (lactate) production. This is relevant to body builders during sets that last longer than about 60 seconds or when training with short rest periods where lactate accumulation can reduce the total number of repetitions completed. In theory, beta alanine may also be useful during very

low carb diets to offset changes in pH due to ketone production. For best results, beta alanine must be consumed continuously for at least four weeks.

Beta alanine helps reduce fatigue during intense body building exercise, thus allowing for a greater training stimulus. All other things being equal, a greater training stimulus = greater gains over time.

BETAINE is an "organic osmolyte" that helps regulate cellular hydration. It was first discovered in the juice of sugar beets, but it is also found in spinach, wheat bran/germ and shellfish. Several human studies have been conducted on TMG supplementation, and most have reported increases in power output and force production (strength) in either the squat or bench press. And while the exact mechanism behind this effect is still unknown, these results are usually seen within 7-14 days of daily supplementation. Chronically, TMG decreases homocysteine (a biomarker of inflammation) and may even increase muscle mass when 2.5 g are ingested

per day for at least six weeks.

With a great safety record and several studies supporting its positive effects on muscle power and force production, this is one amino acid derivative that deserves a spot in your nutritional supplement program.

L-CARNITINE is a naturally occurring amino acid found in meat and dairy. Most carnitine is found in muscle, where it helps transport long chain fatty acids into the mitochondria where they can be burned for energy. Despite this strong theoretical benefit, most studies that have given subjects oral carnitine supplements have not reported increases in physical performance or fat loss. However, a few recent studies have shown that 1000-2000 mg of carnitine per day can improve recovery from intense weight training exercise. In these studies, androgen receptor content was also upregulated in subjects who ingested a specific form called "L-carnitine L-tartrate". Other forms of L-carnitine include acetyl-L-carnitine (which appears to cross the blood-brain barrier and may be neurological

benefits), propionyl-L-carnitine (which has beneficial effects on heart function), and glycine propionyl-L-carnitine (which has beneficial effects on blood flow).

Although it's not a potent fat burner, at the right dose L-carnitine has a bevy of benefits, including enhancement of muscle recovery as well as mitochondrial and cognitive support.

CITRULLINE is a naturally occurring, chemical cousin of the amino acid arginine. Its name is derived from the scientific name for watermelon (*Citrullus vulgaris*), the food from which it was first isolated. During its normal metabolism in the body, citrulline is synthesized from glutamine and ornithine in the intestines, converted to arginine in the kidneys, and helps stimulate nitric oxide (NO) production in peripheral tissues. Of its many roles within the body, NO causes arterial blood vessels to dilate, thus improving blood flow to active muscles. Many body builders use citrulline to amplify their pump response to training. Experimentally, a few recent studies have shown that oral citrulline supplementation can enhance muscular performance and reduce fatigue by enhancing the resynthesis of high-energy phosphates (ATP and creatine phosphate) that are used during all-out exercise. Whether you prefer drinking watermelon concentrate or using supplements, at the right dose citrulline malate can improve exercise capacity and muscle function.

TAURINE is a conditionally essential amino acid that is found in high concentrations in meat and fish. Even though it is the second most abundant amino acid in muscle, taurine is not used to make proteins or enzymes. Functionally, taurine is associated with the regulation of cardiovascular health, water balance, muscle function, central nervous system function, eye health, platelet

activity, sperm motility and insulin action. At doses of 1000-6000 mg per day, some research has reported improvements in physical and mental performance from oral taurine supplementation.

Although compelling research exists that demonstrates the clinical benefits of higher doses of taurine, more work needs to be done in healthy humans taking lower doses. That being said, I consider taurine a very promising ingredient with great potential.

AMENTOFLAVONE is a biflavone compound found in *Ginkgo biloba*. Based on in vitro and animal research, this bioactive may have a number of actions that would make it an attractive supplement, namely: improvements in mood and alertness, inhibition of fatty acid synthase, increases in intracellular calcium signaling (which could potentially increase muscular strength),

improvements in insulin sensitivity and enhanced blood flow. Although very promising, these effects need to be fully explored in human trials before a firm conclusion can be made regarding the effectiveness of amentoflavone supplementation.

PIPERINE is responsible for the pungency of black pepper, but it also enhances the absorption of other nutrients when taken with them. It has been suggested that this is due to its ability to increase blood flow to the digestive tract. Several studies confirm that subjects taking piperine along with other supplements (vitamins, minerals, amino acids, and several herbs) have greater uptake of those ingredients than when they take them alone. Piperine may also increase thermogenesis (calorie burning). Numerous studies have confirmed that black pepper extract is an effective aid for increasing the absorption of other nutrients.



PRE-WORKS™ is a powdered pre-workout formula containing a variety of evidence-based ingredients that have been shown to improve physical and mental performance. In fact, a 33 gram serving contains more than 27 grams of active ingredients, including instantized branched chain amino acids (BCAAs), arginine alpha ketoglutarate, beta alanine, agmatine sulphate, creatine, citrulline, and a blend of other ingredients designed to improve mental focus/concentration (e.g. L-theanine, tyrosine, Yerba mate, guarana).

BCAAS refer to a group of three essential amino acids: leucine, isoleucine and valine. These aminos are among the most important nitrogen containing compounds for the manufacture, maintenance and repair of muscle tissue. Of the three, leucine is clearly the most important. Research shows that it can stimulate protein synthesis (the process of building muscle protein and therefore growth) all by itself, yet the three work better together to provide a host of benefits and even boost energy during workouts. Studies show BCAAs can blunt the catabolic hormone cortisol and decrease delayed-onset muscle soreness. The BCAAs in PRE-WORKS™ are “instantized”, meaning they dissolve completely when mixed in water. In contrast, many other products contain regular BCAAs which leave annoying undissolved “floaties” in your shaker cup.

Isoleucine and valine are the other two BCAA that are snatched up by the muscles to form glucose during exercise. Isoleucine also plays a role in regulating blood sugar and synthesizing hemoglobin (which carries oxygen throughout the body), while valine has mild stimulant properties and can reduce appetite at higher doses.

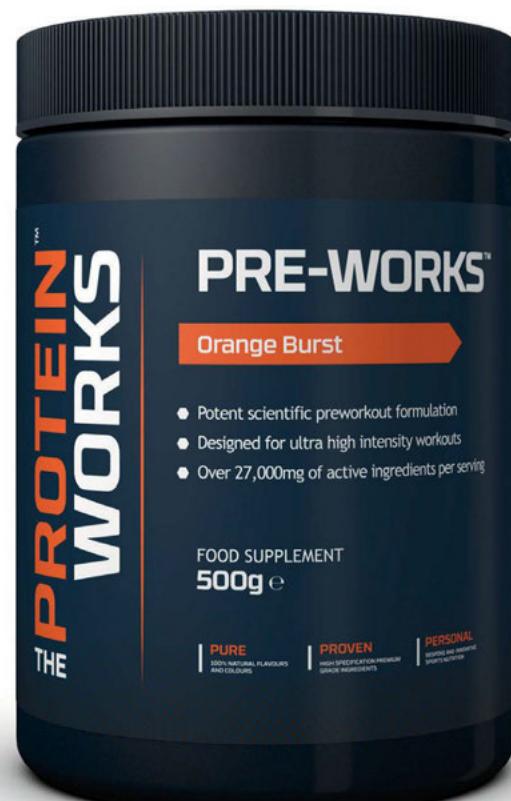
Collectively, the BCAA are used by many athletes to spare muscle protein

breakdown, restore anabolic signaling, and (potentially) up-regulate fat loss. The BCAA are unique among amino acids because they are the only ones thought to bypass the liver and be metabolized directly in skeletal muscle. Even though all three BCAA utilize the same mechanism (transporter) to enter muscle, most experts advise against taking high doses of just one amino acid, and I generally agree with this assertion because when only one BCAA is available to the body, the other two can become “rate limiting”. In other words, leucine works best to stimulate muscle protein synthesis when isoleucine and valine are also around at normal “permissive” levels.

Experimentally, BCAA have also been shown to help speed muscle recovery from intense training. Although the mechanisms are not completely clear, it appears that BCAA act as signaling nutrients and are able to promote the phosphorylation of proteins directly involved in muscle protein synthesis (mTOR, eukaryotic initiation factors, etc). A recent study showed that low doses of whey protein (i.e. 6.25 grams) can be as anabolic as higher doses (i.e. 20 grams) if extra leucine is added into the whey mixture. I’d speculate that even greater increases would be observed if a blend of BCAAs were utilized rather than straight leucine. In addition, some scientists have speculated that long-term use of BCAAs may also aid in fat loss efforts, as isoleucine has been shown to increase the activity of genes controlling fat burning and decrease the activity of genes controlling fat storage. Some data also exist that shows leucine itself can increase fatty acid oxidation and increase mitochondrial biogenesis (translation: more mitochondria) in both muscle cells and fat cells.

BCAAs are versatile compounds that can enhance the effects of most intense training programs. If you don’t eat 4–5 moderate sized meals a day, adding BCAAs to your diet can probably help you. To build more lean mass/strength and help trashed muscles recover more quickly, take BCAAs with your pre and post workout meals/shakes, especially if they contain less than 20 grams of total protein.

CITRULLINE is a naturally occurring chemical cousin of the amino acid arginine. Its name is derived from the scientific name for watermelon (*Citrullus vulgaris*), the food from which it was first isolated. During its normal metabolism in the body, citrulline is synthesized from glutamine and ornithine in the intestines, converted to arginine in the kidneys, and helps stimulate nitric oxide production in peripheral tissues. Of its many roles within the body, nitric oxide causes arterial blood vessels to dilate, thus improving blood flow to active muscles. Many body builders use citrulline to amplify their pump response to training. Experimentally, a few recent



studies have shown that oral citrulline supplementation can enhance muscular performance and reduce fatigue by enhancing the resynthesis of high-energy phosphates (ATP and creatine phosphate) that are used during intense exercise. Studies have also shown increases in bench press performance (i.e. more repetitions completed at a given weight) from acute citrulline ingestion.

At the right dose, citrulline supplementation definitely improves exercise capacity and muscle function during intense exercise.

CREATINE is the world's best-selling, safest, and most effective anabolic supplement in history. Hundreds of studies have been done in humans that demonstrate its efficacy for building muscle and improving performance. Among its main mechanisms of action, creatine increases the rate of ATP regeneration (which reduces fatigue during intense, repeated exercise bouts), promotes greater secretion of intramuscular IGF-1 concentrations (an intramuscular growth factor), increases in muscle fiber protein content, and increases several myogenic regulatory factors (i.e. proteins that activate gene expression in muscle). It's also worth mentioning that in stark contrast to unsubstantiated reports by athletic trainers and some coaches, no published study has ever linked creatine (monohydrate) use to muscle strains, dehydration or kidney/liver problems. Used appropriately, creatine is one of the safest supplements on the market. If you've tried creatine already, chances are you know it works. If not, get on the program.

BETA ALANINE is a widely popular amino acid in many types of athletes because it reduces muscle fatigue during intense exercise. When beta alanine is ingested, it combines with another amino acid called histidine to form a potent compound called carnosine. In exercising muscle,

carnosine acts as a potent buffer of hydrogen ions that are generated from lactic acid (lactate) production. This is relevant to body builders during sets that last longer than about 60 seconds or when training with short rest periods where lactate accumulation can reduce the total number of repetitions completed. In theory, beta alanine may also be useful during very low carb diets to offset changes in pH due to ketone production. For best results, beta alanine must be consumed continuously for at least four weeks.

Beta alanine helps reduce fatigue during intense body building exercise, thus allowing for a greater training stimulus. All other things being equal, a greater training stimulus = greater gains over time.

ARGININE ALPHA KETOGLUTARATE. Arginine is a conditionally essential amino acid found in meat, seafood, nuts and soy. Due to its role in nitric oxide (NO) production and as a potential growth hormone secretagogue, arginine has enjoyed a rich history in sports nutrition. In one study, subjects given 6 g of arginine (along with other vitamins and amino acids) improved their time to exhaustion by 20% compared to the placebo group. Other studies have reported lower levels of ammonia and lactate when various forms of arginine are consumed prior to exercise. Despite these acute benefits, the effects of long term arginine supplementation on muscle growth and the acquisition of strength are quite variable. However, since arginine can be converted to creatine, citrulline, and agmatine (a signaling molecule that enhances blood flow), it is considered to be a very versatile amino acid.

Although the benefits of arginine alpha ketoglutarate are not universally observed, no study has ever reported a decrement in performance. Moreover, many consumers and athletes are convinced of its benefits based on past use.

TRI-METHYL GLYCINE (TMG), also known as betaine) is an "organic osmolyte" that helps regulate cellular hydration. It was first discovered in the juice of sugar beets, but it also found in spinach, wheat bran/germ and shellfish. Several human studies have been conducted on TMG supplementation, and most have reported increases in power output and force production (strength) in either the squat or bench press. And while the exact mechanism behind this effect is still unknown, these results are usually seen within 7-14 days of daily supplementation. Chronically, TMG decreases homocysteine (a biomarker of inflammation) and may even increase muscle mass when 2.5 g are ingested per day for at least six weeks.

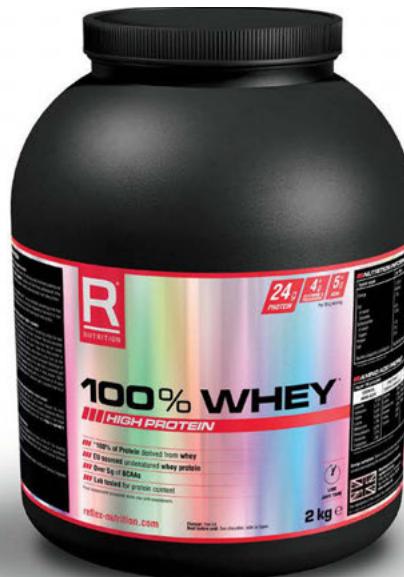
With a great safety record and several studies supporting its positive effects on muscle power and force production, this is one amino acid derivative that deserves a spot in your nutrition program.

AGMATINE SULPHATE is a unique metabolite of L-arginine with numerous properties of interest to body builders. For example, agmatine appears to mitigate the perception of pain, particularly when combined with other compounds that reduce pain themselves (caffeine, for instance). Second, agmatine appears to improve mood and reduce anxiety. Third, agmatine may increase appetite at higher doses (~ 2000 mg). And finally, agmatine is becoming revered in body building circles for its ability to increase muscle "pump", although the exact mechanism(s) for this effect are poorly understood. Other potential benefits of agmatine supplementation are improvements in cardiovascular and cognitive health.

While many of the aforementioned effects need to be verified in healthy subjects under experimental conditions, agmatine appears to be a very solid ingredient with a good safety profile.

100% WHEY

Reflex Nutrition launch an entry price point whey protein that delivers the quality that you would expect. Using only the finest undenatured EU sourced whey protein, **100% Whey** contains no added sugars, no amino spiking and no soy protein. **100% Whey** contains over 5 g of branched-chain amino acids per 24 g of protein. The ratio of the 3 branched-chain amino acids are superbly balanced offering nearly a 2:1:1 ratio of L-leucine, L-isoleucine and L-valine. **100% Whey** comes in a great range of flavours, mixes instantly and includes LactoSpore® bacillus coagulans friendly bacteria producing spores. Manufactured in an Informed-Sport registered facility, it is available from www.reflex-nutrition.com or other leading retailers online or on the high street.



MULTIPOWER'S NEW PREMIUM MUSCLE RANGE

100% PURE WHEY PROTEIN, 100% WHEY ISOLATE PROTEIN AND MASS GAINER

The new Multipower range has been developed using the highest quality ingredients combining great taste with optimal nutritional values to meet athletes' training requirements.

Multipower has introduced two signature new flavours – Coffee Caramel and Banana Mango to accompany French Vanilla, Strawberry Splash and Rich Chocolate.

100% Whey Protein

- 24g protein per serving and only 1.4g Carbohydrate and 1.3g of fat per serving
- Whey Protein Isolate with added hydrolysate for quicker absorption
- Market leading BCAA content – essential amino acids that trigger repair and growth
- Additional Vitamin B6 to aid muscle growth
- Available in five delicious flavours – French Vanilla, Strawberry Splash, Rich Chocolate, Coffee Caramel and Banana Mango
- Sizes available: 450g sachet bag (£21.49), 900g tub (£36.99) and 2000g tub (£64.99).

100% Whey Protein Isolate

- 26g Protein and only 0.3g of fat and 0.7g of Carbohydrate per serving
- High in essential amino acids for health and recovery (6.7g of BCAA per serving and 4.9g of glutamine per serving)
- 11.3% leucine – the most important amino acid for triggering muscle growth and recovery
- Available in three delicious flavours – French Vanilla, Strawberry Splash, Rich Chocolate
- Sizes available: 725g tub (£36.99) and 1590g sachet bag (£67.99)

Mass Gainer

- Complex combination of fast and slow acting proteins, featuring whey hydrolysate, whey isolates, micellar casein and egg albumin for optimum protein quality and absorption



- Variety of carbohydrates including waxy maize starch and barley starch to provide an extended absorption profile
- Vitamin B6 to ensure effective protein and carbohydrate utilisation
- Protein-carb-fat complex specially created to optimise mass building – 70% Carbohydrates, 20% Protein and 5% Fats.
- Available in three delicious flavours – French Vanilla, Strawberry Splash, Rich Chocolate
- Available in a 5440g sachet bag (£84.99).

USN B4-BOMB

USN's B4-Bomb is a powerful pre-workout formulated to help you reach new levels and reach your training targets, breaking through your plateau. It contains the most scientifically grounded nutritional technology to help you achieve your goals.

Containing the following ingredients, it has great benefits:

- **Teacrine** - TeaCrine™ works with the body's natural metabolic processes to deliver longer lasting energy, increase mental clarity and improve mood and motivation.
- **L-arginine Nitrate** - Increased pump, training performance, time to exhaustion, as well as enhanced nutrient absorption.
- **ALA** - Protect muscle and increase glucose uptake in the muscle for more power and recovery.
- **L-theanine** - Benefits in supporting blood flow, energy and focus

- **Astragin** - Supports increased strength through enhanced glucose absorption and power/pump. Also supports helps muscle recovery and pump.
- **Agmapure** - Agmatine Sulfate is thought to improve nutrient partitioning thus leading to more glycogen storage and increased water retention within the muscle.

It also supports the level of nitric oxide (NO), which can increase the 'PUMP'

■ **Pycnogenol** - Supports blood micro-circulation, blood flow to the muscle and arterial opening to allow more nutrient and oxygen flow. Also acts as a lactate buffer and can enhance muscle pump whilst having anti-oxidant qualities

It is available in 2 delicious flavours, Lime & Lemonade & Pineapple Punch, £37.99. www.usn.co.uk



CELLUCOR FOURTH GENERATION

A new era of innovation is emerging as the sports nutrition brand, Cellucor, prepares to launch its **Fourth Generation** of supplements internationally. The U.S. based brand is an award-winning leader in its space with a reputation for staying on the forefront of cutting edge technology, and for possessing an unwavering commitment to quality. The **Fourth Generation** is the ultimate reflection of Cellucor's mission to deliver superior products with advanced, unique ingredients, and formulas to help take your results to the next level.

There are several products from the **Fourth Generation** lineup set to hit shelves in the next few months. First up is the explosively popular pre-workout supplement, **C4**. **C4** was the blast heard around the world when it launched in 2010, and now, in its Fourth Generation, **C4**

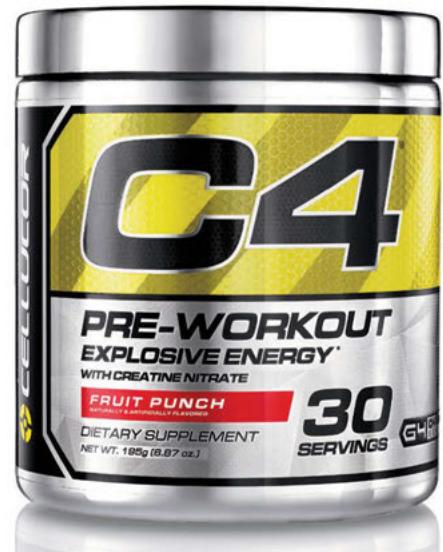
will feature an exclusive **Explosive Energy Blend**, with supporting ingredients that promote energy and focus to help you push through your toughest workouts.

Alpha Amino is another member of the **Fourth Generation** launch. It is a sports drink powder with amino acids to help boost training performance and muscle recovery.

Alpha Amino is caffeine free, low in calories and sugar, and serves as an alternative to traditional sports drinks.

The **Fourth Generation** line wouldn't be complete without a revamped version of its flagship weight loss product; **Super HD**. **Super HD** is a thermogenic fat burner formulated with ingredients that promote focus and energy. Weight loss is about how you feel, and with help from **Super HD**, you will be on your way to feeling your best.

There is much to look forward to with the launch of Cellucor's Fourth Generation, and this is just the beginning.



I've conditioned my mind

Trained my body

Sacrificed my soul

"Every champion was once a contender
who refused to give up"

- Kai Greene

2012, 2013, 2014, Runner-up

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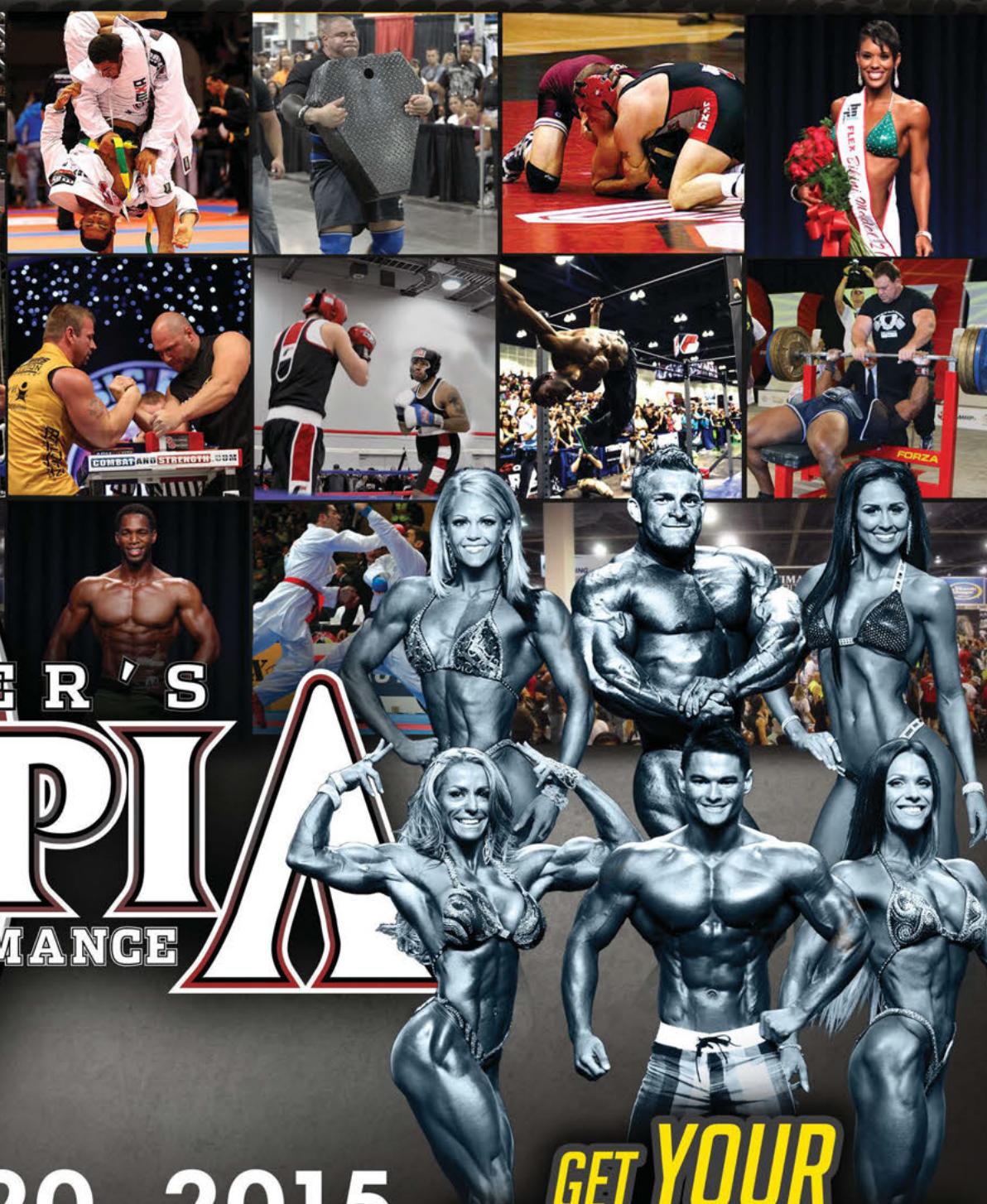
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LABS



GET YOUR
TICKETS NOW!

MUSCLE & FITNESS

Hers

ALL THE LATEST ON
TRAINING,
NUTRITION,
HEALTH,
AND MORE



■ Studies show that exercising outside reduces levels of the stress hormone cortisol more than working out indoors.

The background of the entire page is a high-angle, aerial photograph of ocean waves. The water is a vibrant turquoise color, with white foam visible where waves break. The perspective is looking down and slightly out over the horizon.

MAKE A SPLASH!

We love the gym as much as you do, but when the sun is warm and the sky is blue, there's nothing like heading outside for some action and adventure. Whether it's diving headfirst through waves, climbing up a steep trail, or simply heading out for a tough run in the park, now's the time to get out and get moving. Challenge yourself to get your heart racing with a new activity. After all, isn't fitness about being ready for anything?



OUR MODEL

Jelena Abbou

IFBB bikini pro

Hometown:

Hackensack, N.J.

Occupation:

Fitness model,
personal trainer

Instagram:

@JelenaFit

"WORKING OUT IS A PRACTICE THAT NEVER ENDS—I'M ALWAYS FINE-TUNING MY DIET AND EXERCISE PROGRAM."



HARD HITTERS



Dial up your strength with a loaded mix of never-before-seen moves. This routine makes use of a tire, sledgehammer, kettlebell, and top-loaded barbell to hit your shoulders, bi's, tri's, core, legs, and more.

IFBB figure pro Jelena Abbou takes it to the limit to sculpt beautiful definition all over.

BY CAT PERRY | WORKOUT BY GINO CACCAVALE | PHOTOGRAPHS BY PER BERNAL



TIP

YOU CAN ALSO STAGGER YOUR STANCE SO THAT IF YOU STRIKE RIGHT, YOUR RIGHT LEG IS BACK, ROTATING YOUR HIP ON THE DOWNWARD STRIKE.

SLEDGEHAMMER TIRE STRIKE

WORKS: ARMS, SHOULDERS, BACK, CORE

- Stand with feet slightly wider than shoulder width.
- Hold hammer in your right (power) hand, placing it closest to the striking-iron end and your left (support) hand closest to the handle end.
- Hoist hammer 45 degrees over right shoulder (**A**).
- With all your power, swing the hammer down to strike the tire while sliding your hands together to the handle end and centering your body (**B**).
- Hoist the hammer back over your right shoulder without pausing after striking.
- Perform two sets of 25 strikes over each shoulder, reversing hand placement for opposite swing.



A



B



LANDMINE SQUAT AND PUSH

WORKS: SHOULDERS, THIGHS

- Stand with feet slightly wider than shoulder-distance apart, holding bar at chest level.
- Squat down, keeping body weight over heels and bar at chest height (**A**). Lower your body until your elbows almost touch your thighs.
- Explode up off your heels, extending your arms upward and forward (**B**).
- Perform three sets (20, 16, 12 reps), decreasing reps while increasing weight each set.

FOR ADDED MUSCLE ENGAGEMENT, RISE TO BALLS OF FEET, FLEXING CALVES AT TOP.



LANDMINE ONE-ARM ROW

WORKS: CORE, BACK

- Place your left foot forward and the ball of your right foot approximately 30 inches behind your left. Hold the bar with your left hand, keeping your hand just outside your left knee.
- Moving only at your elbow, row the barbell up to hip height, then return to start.
- Perform two sets of 15 reps each arm.



KETTLEBELL SWING WITH TOP ROTATION

WORKS: SHOULDERS, CORE

- Stand with your feet shoulder-width apart, holding a single kettlebell in front of your thighs, with both palms facing your body.
- Thrust your hips forward and swing the kettlebell overhead.
- At the top of the movement, rotate your torso to the right while the kettlebell is still overhead.
- Return your torso to the center while simultaneously letting kettlebell descend back to start position. Keep chest up.
- Do not pause at bottom. Swing the kettlebell back up and rotate to opposite side. That's one rep.
- Perform two sets of 10 reps.



B



LANDMINE 180

WORKS: SHOULDERS, CORE; BUILDS EXPLOSIVE UPPER-BODY STRENGTH

- Stand with feet wider than hip width, gripping the thick part of a barbell and resting it on your left thigh.
- Keeping arms straight, rotate bar 180 degrees across your body, pivoting on ball of left foot until the bar rests on your right thigh (A).
- With all your power, “rip” the bar back across your body toward left thigh, pivoting on the ball of your right foot (B).
- Perform two sets of 30 reps (15 per side).

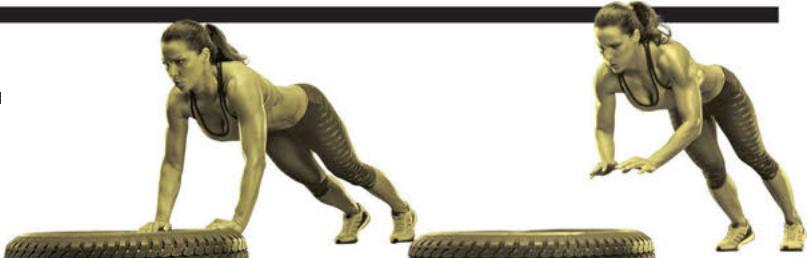
TIP

KEEP THE MOVEMENT CONTINUOUS, WITH KNEES SOFT AND ARMS AS STRAIGHT AS POSSIBLE.

EXPLODING PUSHUP

WORKS: SHOULDERS, CHEST, CORE

- Place hands on tire in a pushup position, wrists in line with elbows, feet shoulder width on floor, and back flat.
- Lower into a pushup and then explosively push off tire.
- Land with soft elbows and immediately descend into the next pushup. Perform two sets of 20 reps.





A

TIRE FLIP

WORKS: SHOULDERS, BACK, LEGS

- Stand with feet wider than hip width and lower into a deep squat.
- Slip your hands under the tire with your palms facing upward and your hands shoulder-distance apart. Raise the tire about four inches (**A**).
- Using your legs and arms, pulse your knees and push tire up until tire is at 45 degrees, then quickly reverse your hands to an overhand grip.
- Driving through your heels and pressing your shoulders forward, push the tire over onto its reverse side (**B**).
- Shuffle up to the flipped tire, assume a wide stance, palms facing up underneath tire, and repeat movement.
- Perform two sets 15 flips in a line. If space is limited, move to the other side of the tire and flip it back to the start position.



B

USE THE POWER IN YOUR LOWER BODY TO LIFT THE TIRE OFF THE FLOOR.



ABMAT SITUP

WORKS: CORE

- Lie with your lower back over the curvature of an AbMat. Place your hands behind your ears with your elbows out. Place your feet six inches apart on floor, bending knees 90 degrees.
- Slowly raise your torso until it's just short of perpendicular to the floor.
- Slowly lower back to the AbMat, keeping torso parallel to the floor, head lifted, and core constantly engaged.
- Perform three sets of 25 slow reps.

**MY FAVE
WAY TO...**

Cross-train

Freshen up your routine and burn mega calories with these three nontraditional fat-blasters from top fitness pros

BY SOMMER ROBERTSON-ABIAID



"CROSS-TRAINING OUTDOORS IS A GREAT WAY TO BURN FAT. IT KEEPS MY WORKOUTS FRESH AND CHALLENGES MY ATHLETIC ABILITIES."

—CAMALA RODRIGUEZ-MCCLURE

CAMALA RODRIGUEZ-MCCLURE

Cross-training secret: Stadium plyometrics

Why it's her fave: "Certain areas of my core and legs don't respond well to traditional strength exercises. Stadium plyometric drills challenge these stubborn areas and help boost endurance, accelerate fat loss, and create long, lean muscles so I'm conditioned year-round."

Camala's Workout:

Begin with a dynamic warmup with moves like alternating walking kicks and walking knee tucks to get your muscles ready for action.

SUPERSET 1:

Do 10 frog jumps going up stadium stairs, then lower into a plank and hold the position for 20 seconds. Stand up and do 10 alternating lunges per leg going up the steps. That's one set. Repeat for a total of five sets.

SUPERSET 2:

Making your way down the bleachers, jog the length of five rows, completing each of the exercises listed below at the end of the corresponding row. That's one set. Repeat for a total of five sets.

Row 1: 25 Plié squats

Row 2: 20 Triceps dips

Row 3: 20 Bulgarian split squats (10 each leg)

Row 4: 30 Mountain climbers

Row 5: 20 Reverse lunges off the step (10 each leg)

JULIANA DANIELL

Cross-training secret: Suicide running drills

Why it's her fave: "Your body burns a large number of calories with high-intensity sprinting drills like suicides. Adding in a variety of plyometric exercises between sets of these sprints ups the fat burn while allowing you to work several muscle groups at once."

Juliana's Workout:

■ Start with a light warmup, jogging a few laps around a football field or track. Set up six to eight markers about six yards apart on the track or field.

■ Sprint all out from the start line to the first line or marker. Then do one of the following exercises back to the start: pike walkout, crab walk, walking high-knee raises, or side shuffle.

■ Sprint all out from the start line to the second line. Do one of the above exercises back to the start.

■ Continue this drill for each marker, sprinting on the way out and doing one of the exercises above back to the start.

■ Perform four to six sets total.

"STOP IF YOUR BODY IS TELLING YOU TO DO SO—PUSHING YOURSELF HARD DURING YOUR WORKOUTS IS FINE, BUT YOU ALSO DON'T WANT TO OVERDO IT."

ERIN STERN

Cross-training secret: Deep-water training

Why it's her fave: "Water provides 12 times the resistance of air with zero impact, so you can work your muscles in all directions and challenge your body in a way that you just can't replicate in the gym. I use a deep-water running belt like the AquaJogger (aquaJogger.com) to keep my form correct."

Erin's Workout:

Find water deep enough so that you can't touch bottom. Wear a flotation belt snapped securely around your waist. Use a waterproof countdown timer or clock to stay on track.

EXERCISE	SETS	TIME
All-out Sprints	8	30 seconds
Flutter Kick**	4	30 seconds
Frog Kick	4	30 seconds

*Rest for one minute between sets.

**Keep your legs straight and focus on squeezing your glutes.

"WHEN SPRINTING, BRING YOUR THIGHS UP TO AT LEAST PARALLEL AND SWING YOUR ELBOWS PAST YOUR HIPS. IF 30 SECONDS IS TOO LONG, TRY 15 SECONDS TO START AND DO 12 SPRINTS TOTAL. WATER WORKOUTS TEND TO BE LONGER, AS IT CAN BE HARDER TO GET YOUR HEART RATE UP. EXPERIMENT WITH SHORTER RECOVERY TIMES BETWEEN SETS EACH SUBSEQUENT SESSION."

The Turkish Getup

Build muscle, boost strength, and blast fat all at once by mastering this total-body move

BY SOMMER ROBERTSON-ABIAD | PHOTOGRAPHS BY EDGAR ARTIGA

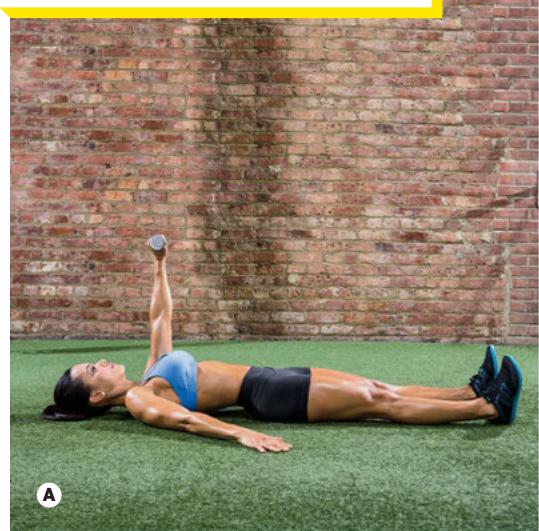
• **WANT ONE MOVE WITH TOTAL-BODY RESULTS?** Cue the Turkish Getup (TGU), which pushes practically every major muscle from deltoids and abs to quads and glutes through a large range of motion. This highly functional movement combines several exercises into one, tasking your body from head to toe and strengthening its foundation, explains NCCP weightlifting coach Steve Cristini, co-owner of CrossFit Markham & Reebok CrossFit East Woodbridge, Canada. “Taking your shoulder through various positions of loaded movement strengthens and increases shoulder stability,” Cristini says. “[The move] also requires a lot of core strength, to get from the floor to your knees. Your quads and glutes are key to helping you bring your body from the kneeling position to the standing position.”

But that’s not all. This killer movement not only helps build total-body strength, it’s also a great way to torch calories and rehab shoulder injuries. “[The TGU] requires multiple directions of movement, and the load can vary,” Cristini adds. “This makes it the perfect tool to improve shoulder strength, flexibility, and stability following an injury.” So, whether you are rehabbing a nagging shoulder or looking to take your

physique up a notch, you can step up your workouts and progress with a session of TGUs.

THE WORKOUT: DO 4 SETS OF EACH

EXERCISE	REPS
Turkish Getup	10 each side
Russian Kettlebell Swing	10
Kettlebell Snatch	10 each side
Plank	60-second hold



A



B



C

HOW-TO

- Lie flat on the floor with your right arm straight out to your side and left extended above your head holding a dumbbell, knuckles facing the ceiling (A).
- Slide left foot back, placing it flat on floor.
- Roll onto your right side, shifting body weight onto right elbow and forearm, keeping abs tight and eyes on the weight.
- Transfer from elbow/forearm to the palm and extend your elbow.
- Drive up through left foot, keeping right leg straight, extending your hips into a bridge.
- Slide right foot back and under body to rest on your knee (B).
- Use your quads and glutes to press up into a lunge position, then finish the movement by standing straight up and bringing your feet together (C). That’s one rep. Reverse the steps to return to starting position.

BEGINNER BASICS

Beginners should practice the TGU in segments, Cristini says. “Mastering the order of the steps before adding weight is key to maximizing the benefits.” Once your body acclimates to the movement, you can slowly add on weight.

ADVANCED TECHNIQUE

“Change up your object—use kettlebells, dumbbells, etc.,” Cristini says. Integrating a variety of tools will task your muscles to work at different angles—and keep the movement feeling fresh. To make it even more challenging, try performing the movement bilaterally, with a weight in each hand. “You can also make use of tempo,” he adds. “Slow down or hold each part of the sequence for three to five seconds to increase the stabilizers required.”

■ Stay focused on one spot as you move to help you maintain stability as you go through the different stages of the exercise.

Sculpt Sleek Postbaby Abs

Get rid of your postpregnancy pooch with a smarter approach to strengthening the core

BY GINO CACCIAVALE, HER'S TECHNICAL ADVISER

CHRISSEY N., SAN JOSE, CA

"Five years ago, I developed separated abdominal muscles during my pregnancy with my twin girls. I had a fairly long road to recovery, but I've since gotten back into shape and am currently prepping for a fitness competition. For my abs, I typically do weighted crunches on a stability ball, hanging leg raises, and machine crunches as part of my regular routine. I'd love any workouts to help with the abdominal separation and get back to peak shape!"

Let me start by saying that there are no exercises that help with abdominal separation. Repairing and recovering from this condition, known as diastasis recti, starts and ends with core strength, posture, and alignment. Some of the exercises you are currently doing (such as hanging leg raises and weighted

crunches) are actually forcing more intra-abdominal pressure and will only contribute to continued separation.

My advice: Relax and lay off the ab exercises. You're better off engaging your midsection during other strength exercises. For moves like squats, rows, presses, curls, etc., think about engaging

your midsection. This will work the abdominals without causing pressure or protrusion. Focus on flawless spinal alignment and posture. For women who have given birth more than a year ago, choose exercises that don't "bulge" your belly—in other words, avoid moves that extend your belly outward (for example, leg

raises and stability ball crunches), which will inhibit and delay ab muscles returning to normal form.

As for the rest of your workout, 55 minutes of cardio a day is excessive unless you have a lot of weight to lose. You're likely burning muscle along with fat. Cut it down to 40 minutes max of steady-state aerobics, six days a week, while keeping calories and carbs low. On your leg day warm up just 10 minutes on a stationary bike.

Finally, there are a few other tweaks you can make to your schedule. You have shoulders directly following chest workouts. Shoulders are used during chest training, and doing a push after a push is overworking. Since figure competition is judged on shape and taper, your shoulders should take priority over your chest. If you're doing a five-day split, throw your heavy leg day in the middle, on Day 3. Currently, you have too much upper-body rest between back and shoulders. Good luck in your training!

Moves that involve the deep core muscles can help tighten your tummy.



OLD WORKOUT

DAY 1: Legs, cardio (55 minutes)

DAY 2: Back, abs*, cardio (55 minutes)

DAY 3: Glutes, hamstrings, cardio (55 minutes)

DAY 4: Chest, tri's, abs*, cardio (55 minutes)

DAY 5: Shoulders, glutes, hamstrings, cardio (55 minutes)

DAY 6: Cardio (55 minutes)

*Old abs routine (twice a week):

Weighted crunches on a stability ball, hanging leg raises, machine crunches, abdominal draw-ins

NEW WORKOUT

DAY 1: Back, glutes, abs, cardio (40 minutes)

DAY 2: Chest, biceps, cardio (40 minutes)

DAY 3: Legs, abs, bike (10 minutes)

DAY 4: Arms, abs, cardio (40–55 minutes)

DAY 5: Shoulders, hamstrings, cardio (40 minutes)

DAY 6: Glutes, abs, cardio (40 minutes)

DAY 7: Rest; reduce calories by 400

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REACH HIGH
“Often people pick one thing to focus on and expect everything else to fall into place. You have to do it from all angles.”

Kerri Walsh Jennings



The 36-year-old three-time Olympic gold medalist has her sights set on the 2016 Summer Games with new partner, April Ross. Here's how she balances training, nutrition, and life as a wife and mom of three young children. **BY DIANA KELLY**

Embrace Variety

I grew up playing a variety of sports, and I learned so much about my body by doing that. Today, I keep up a well-rounded cross-training system that challenges me from top to bottom. I try to make sure my body never gets comfortable, so it can keep evolving in the way I want it to. In addition to three hours of beach volleyball practice a day, I do Pilates three times a

week—on the reformer, the mat, and the beach. I also do fast-twitch workouts twice a week with Olympic lifting and plyometrics.

Food for Thought

I want to be the best I can be, and there's no way I can do that unless I'm fueling my body properly with the right nutrition. I'm a huge advocate of starting the day off right at breakfast. I'm a

creature of habit, and as a crazy-busy mom I tend to make a lot of shakes for breakfast that I quickly drink while getting my family ready in the morning. I use unsweetened vanilla almond milk like Almond Breeze, vanilla whey protein, kale or spinach, chia seeds, oats, and honey and blend it up to drink while I'm on the run. Between morning and afternoon workouts I'll have another shake, or a protein bar, or a

turkey sandwich on Paleo bread with mustard and avocado. It's important to get protein in soon after my workouts. I also drink a lot of water since that helps with recovery, mood, and hunger.

Injury Prevention Plan

Staying strong and flexible is how I stay healthy. I'm a big fan of weightlifting to make me strong and prevent injury. It's also great for metabolism, confidence, posture, and bone density. Pilates has helped me so much in my career as well. I worked hard to get my strength back in my core and strengthen my upper back, especially after breastfeeding.

Get Uncomfortable

I have career goals that I want to hit as well as stepping-stone goals. I

want to grow as a mom and a wife. I work with a sports psychologist who tells me, “Kerri, if you have a chance to go out on a limb or stay safe and be comfortable, don't be afraid to be uncomfortable.”

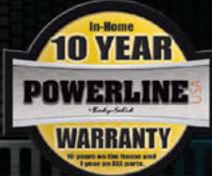
Whether it's giving a speech or trying something totally new to me, I'm going to work hard at it, and then afterward, I'll be glad I did it. I love winning in life. Whatever my “gold medal” is, I hope to keep striving for it.

Form Your Home Team

Balancing life as a professional athlete and a mom who's also married to a professional volleyball player [Casey Jennings] means my husband and I need to act as a team with our kids. They're wonderful and humor us a lot and are very adaptable. It's important to surround yourself with amazing people who challenge you, support you, and inspire you. I'm the richest woman in the world in that regard.

Beyond the Olympics

I'm so excited that I'm not done competing yet, but when I think about my life after my competitive career I'm excited, too! I have fictional book ideas and I'd love to go on a speaking tour to share the secrets I've learned from so many people. My husband and I are going to start an academy that will be centered around volleyball and the whole athlete, focusing on the body, mind, spirit, leader, and character.



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Sleep Is the New Foreplay

• **HIT THE SACK EARLIER TONIGHT** and you'll be more likely to want some loving tomorrow, according to a new study in the *Journal of Sexual Medicine*. Researchers surveyed 171 women and found that those who got more shut-eye on a given night were significantly more likely to want some hanky-panky when they woke up. "The longer women sleep, the better their capacity for sexual desire the following day," notes study author David A. Kalmbach, Ph.D., a researcher at the Sleep and Circadian Research Laboratory at the University of Michigan Medical School. Good sleep is important for mood, concentration, memory, and energy, along with sexual desire and arousal, adds Kalmbach. "The important thing is to schedule your evening so you have enough time to get sufficient sleep." —DIANA KELLY



The Vitamin D vs. SPF Fix

Summer days are the perfect time to get some vitamin D, but if you're wearing sun-block to protect your skin, you may risk a D deficiency. Research has shown getting adequate vitamin D (a minimum 600 IU daily) helps prevent cognitive decline,

cancer, depression, osteoporosis, cardiovascular disease, and type-2 diabetes.

But don't shelve the SPF yet: "Increasing sun exposure without adequate sunscreen will increase your risk of skin cancer," says Linda Ciofu Baumann, Ph.D., member of the U.S. Preventive Services Task Force. Instead, focus on eating D-rich foods such as fortified milk, juice, and cereal; fatty fish like tuna, salmon, and mackerel; and cheese or egg yolks. Or consider taking a D2 or D3 supplement.

—DK

BE A FITNESS MENTOR

Finding a friend, peer, or young person to coach toward her fitness and health goals will not only benefit her, it may also help you to stay motivated and focused on your own health and wellness objectives. Win-win! Research published in the *International Journal of Nursing Studies* found that participants who were mentored had higher retention and participation rates in their fitness programs as well as improved overall fitness compared with those who worked independently. Dallas-based IFBB pro and judge Jennifer Thompson started mentoring now-18-year-old LeeAnn Thompson when she started dating LeeAnn's father a few years ago. The women soon bonded over a love of fitness as well as playing softball. Now LeeAnn's stepmom, Jennifer, shares workouts, healthy recipes, cooking advice, and hair and makeup tips with LeeAnn. "LeeAnn's energy, drive, and how she lives her life inspire me," Jennifer says. "Mentoring her is motivating and helps push me to maintain [the fitness level] I have and not let that fall. I want to be inspirational for her and not let the small things affect me while letting her know that anything is possible for her." —DK





NEVER STOP

changing the game



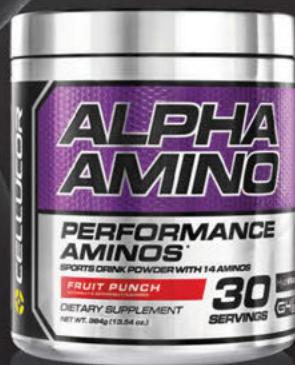
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Mind Your Fitness

Use these proven motivational techniques to power through your toughest workouts and stick to the strictest of diets—no matter how hectic your schedule gets

BY DELFINA URE | PHOTOGRAPH BY KEVIN VAN AELST

• THE LAST THING

you want is to just go through the motions while exercising. But day-to-day life pressures can distract even the most dedicated among us. Plus, obligations with work, school, and family can make

sticking to a diet feel nearly impossible. The trick to juggling daily goals with a commitment to being healthy and fit starts with your mindset. These self-motivating tips can improve your focus, energy, and drive.

CELEBRATE THE LITTLE THINGS

Learning to revel in small successes on the path to achieving long-term fitness goals is the key to improving motivation. You can boost your resolve "by giving yourself positive feedback," says Judith S. Beck, Ph.D., author of

The Diet Trap Solution. Even better, she adds, "Give yourself double the credit when you do something positive toward your goal, even when you don't feel like it." Recognizing small improvements along the way to attaining bigger goals feeds the reward center in your brain, explains Beck, and bolsters self-confidence, increasing the likelihood that you'll continue engaging in the desired behavior.

FIND THE POWER TO SAY NO

You may be tempted to "give yourself permission" to opt out of doing your best during a workout or sticking to your diet plan when stressors are high. "But telling yourself it's not OK to skip out on your goals sends a powerful message to your brain that your commitment to fitness and health is non-negotiable," Beck says. When you give yourself no choice but to tackle the task at hand, you remove self-sabotaging behavior that can compromise the bigger picture.

GET HELP

A 2010 study in the *International Journal of Behavioral Nutrition and Physical Activity* showed that motivation plays an important role in adhering to a special diet. Half of a group of 80 women were given guidance on goal-setting techniques and journaling along with weight-loss advice, while the rest were provided with only the diet tips. Although both groups lost weight, those who had goal-setting guidance were

significantly more successful. The next time you're trying to cut calories, make sure to set up an emotional backup plan. Try visualizing yourself successful at the task, plotting and tracking your goals, or even recruiting a supportive friend. Just one source of positive reinforcement can help strengthen your effort and get you the results you want.

A STERN CELEBRATION

Two-time IFBB Figure Olympia champ Erin Stern knows well the challenges of sticking with a Spartan diet for months on end. To get to the finish line, she follows our first motivational rule, acknowledging smaller accomplishments along the way to bigger goals, but includes a very satisfying twist.

"Once the main goal is defined, I create a timeline and a series of minigoals," Stern says. "This helps me stay on track. I employ the use of nonfood rewards for achieving each minigoal. I love little celebrations, like a new pair of shoes, a massage, or a manicure!"



ISAAC HINDS



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Smoothie Season

Three refreshing ways to recover on a hot summer day!

PHOTOGRAPH BY BRIAN KLUTCH

•EVERYBODY LOVES A good shake, whether it's to refuel after a tough workout, a grab-and-go meal, or just something to keep you satisfied. We asked *you* for your ultimate post-workout smoothies via Instagram—here are a few of our faves. Keep the ideas coming, and follow us on Instagram and @MuscleandFitnessHers!



1 TROPICAL-TRIP SIPPER

"This protein-rich smoothie helps my muscles recover after a long run outside. Not only does it taste delicious, but it also helps me cool down and feel refreshed!"

—ALYSON MINER,
@ALYMINER

1 frozen banana

½ cup frozen pineapple
1 tbsp shredded coconut
1 scoop vanilla protein powder
1 cup almond milk

PER SERVING

Calories: 315, Fat: 8g, Saturated fat: 3g, Carbs: 41g, Fiber: 6g, Protein: 28g

2 VERY BERRY YUMMY TUMMY

"I go to the gym in the morning, and this smoothie keeps me full until lunch. It has protein for muscle recovery, carbs for energy, plus loads of antioxidants from the berries and spinach."

—ROSSANA BECK,
@ROSSANA_BP

½ cup nonfat Greek yogurt

1 scoop vanilla protein powder
½ banana
½ cup mixed frozen berries
Handful of spinach
¼ cup ice
¼ cup water

PER SERVING

Calories: 377, Fat: 1.5g, Saturated fat: 0g, Carbs: 44g, Fiber: 8g, Protein: 45g

3 CHOCOLATE PEANUT BUTTER BLAST

"This smoothie is a favorite of mine to have after doing an intense HIIT workout. I love peanut butter and chocolate, and knowing I have that healthy shake at the end keeps me going!"

—MARISA YBAÑEZ,
@MARISA688

½ cup crushed ice

1 cup water
1 scoop chocolate protein powder
1 tsp vanilla extract
1 tbsp peanut butter
½ half banana

PER SERVING

Calories: 306, Fat: 9g, Saturated fat: 2g, Carbs: 28g, Fiber: 4g, Protein: 30g

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PROTEIN POWER:

Can't get cracked up about eggs? Plenty of other healthy foods can fill your nutrient needs.

Q I know a lot of the high-protein foods recommended for athletes contain eggs, but I have a severe allergy to them. What other foods can yield the same protein-to-calorie intake ratio?

—BETHSABET D., ALBANY, NY

"Eggs are nutritious sources of high-quality protein for the number of calories they contain [7 grams of protein per whole egg; 70 to 80 calories]," says Kristine Clark, Ph.D., R.D., director of sports nutrition at Penn State University. For similar protein power, pour a big glass of fat-free milk. (One cup has 8g of protein and 80 calories.) "Both eggs and milk are two of the most biologically available sources of protein, meaning they are both highly absorbable," Clark says. Other

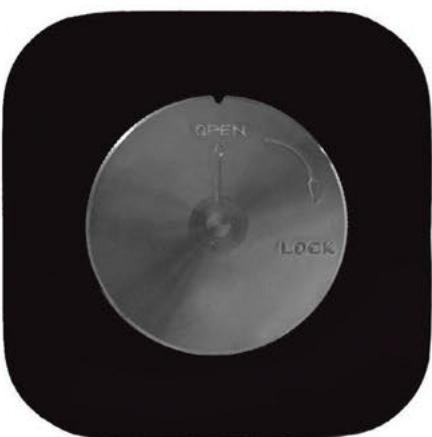
good options include roasted soy beans (22g of protein in 1/4 cup; 100 calories) and plain Greek yogurt (18g protein in six ounces; 120 calories).

Q How can I best target my upper-middle back? I don't feel like I'm getting the development that I want.

—ERICA B., SEATTLE, WA

"Do some basic pullups," says Chantha Thach, a personal trainer with Crunch

Tribeca in New York City. "The key is to contract and squeeze your shoulder blades together at the top of the move." In addition, narrow-grip pulldowns, cable rows, and single-arm dumbbell rows also help target the upper back. Finally, remember to exercise your mental muscle. "It's important to make that mind-body connection when you are working out," says Thach. "Concentrate on the muscles being engaged and make sure you're fully contracting them with every rep."



THE END.



Ready for Adventure

Whether you're set on doing an obstacle course race or just looking to boost your fitness and fat loss, this total-body conditioning program helps you overtake any challenge

BY ALYSSA SHAFFER

• ENJOY PUSHING

your limits and putting every inch of your conditioning into action? Throw some mud pits, icy water, and even a little fire into the mix and you've got obstacle course races (OCRs). Events like Tough Mudder, Spartan Race, and Warrior Dash have skyrocketed in popularity. In 2013, more people did an obstacle race or mud run than a marathon or half marathon, according to Running USA. Many are driven not only by the challenge of scaling a 14-foot wall or crawling through mud under barbed wires, but also

the camaraderie, since teamwork is often key.

But how do you train to do everything from slithering through a 20-foot tube to swinging from monkey bars? "The races require a combination of cardiovascular endurance, speed, strength, and power," says Rebecca Golian, an SGX-certified elite Spartan Race competitor and a trainer at Chelsea Piers Sports Center in NYC, where she created the OCR Training program.

Because you're racing from one obstacle to the next, you need to train your heart rate at

different zones, with high-intensity intervals as well as long, slow endurance work. At the same time, you need to develop functional strength to complete movements like pushups, pullups, crawls, drags, and carries. And, of course, there's the mind game: "You go through a lot in these races, so you need physical conditioning as well as mental grit," adds Golian.

This OCR training workout from Golian mixes all the elements needed to conquer an adventure race. But it's also a great way to burn fat and improve fitness —no mud required.

ADVENTURE RACE TRAINING

WARMUP/ DYNAMIC STRETCHING:

Jump Rope
5 minutes

Alternate Toe Touch
10 per side

Standing Side Bend
10 per side

Trunk Rotation
20 rotations

Arm Circle
6–10 reps per side

Walking Lunge
15–20 reps

Run $\frac{1}{4}$ mile (or about 2–3 minutes) at a moderate pace. Then do as many reps as possible of the following exercises for 1 minute each. Rest 30 seconds between each exercise. Complete the circuit 1–3 times, resting 1–3 minutes between each circuit.

- Pushup
- Crunch
- Pullup or Hanging Knee Raise
- Lunge
- Plank
- Body-weight Squat
- Burpee

Do this circuit 1–3 times. Rest 1–3 minutes between each circuit.

• Walking Lunge

With or without weight; 15–20 reps

• Squat Jump

No weight; 10 reps

• Front Bear Crawl

Begin on all fours; lift knees slightly and step forward with right hand and right foot, then immediately repeat with left side. Keep knees close to ground, directly under hips. Continue for about 1 minute, building speed as you get more familiar with the movement.

• Reverse Bear Crawl

Begin as above, this time stepping backward with right hand/foot and then with left. Continue for about 1 minute.

• Walking Lunge

Body weight or holding weight; 15–20 reps

• Squat Jump

No weight; 10 reps

• Run $\frac{1}{4}$ mile or about 2–3 minutes

at a slightly faster pace than in Circuit 1.

Beet This

• **FORGET FANCY** fruits grown in remote rain forests: Turns out good old beets are packed with nutrients that can help give athletes an added edge. "Beets are high in nitrates, which can assist in speed and performance," says Jessica Crandall, a Denver-based dietitian and a spokeswoman for the Academy of Nutrition and Dietetics. "Nitric oxide can improve blood flow, reduce oxygen cost to exercise, enhance muscle contractions, and help with glucose stability." One study in the *Journal of the Academy of Nutrition and Dietetics* found eating a 7-ounce serving of cooked beets an hour before running can "acutely improve running performance." —Diane Kelly

SKINNY SUMMER COCKTAILS

Sip these lower-calorie cocktails, which use very little sweetener and additives, so you can imbibe without ruining your diet—and make the most of those hot summer nights. —Cat Perry

LARS KLOVSE/GETTY IMAGES (BEET); ALEX ROBINSON/CORBIS
(PISCO SOUR); AMPHOTOS/ALAMY (MARGARITA)



Grapefruit Crush
(190 calories)

- Ice
- ½ grapefruit plus 1 slice
- 2 oz Finlandia Grapefruit Vodka
- Club soda

Fill a glass with ice, then squeeze in the juice from ½ of a grapefruit. Add vodka. Stir and top with club soda. Garnish with slice of fresh grapefruit. Add less grapefruit juice to lower calories.



Pisco Sour with Truvia
(160 calories)

- 2 oz Pisco Portón
- ½ oz lime juice
- ½ oz lemon juice
- 2 packets Truvia
- 1 egg white, pasteurized

In cocktail shaker add all the ingredients; shake. Fill half of shaker with ice and shake again. Double strain into cocktail glass and garnish. Sip your protein.



Classic 2 Skinny Drunks Margarita
(109 calories)

- Ice
- 2 oz 2 Skinny Drunks Premium Organic Margarita Mix
- 1 oz Sauza Blanco Tequila

Combine in shaker, shake, and pour into glass. You'll love the all-organic ingredients, plus, two ounces of the 2 Skinny Drunks Margarita mix adds only 40 calories.



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Will Kane

on training to be
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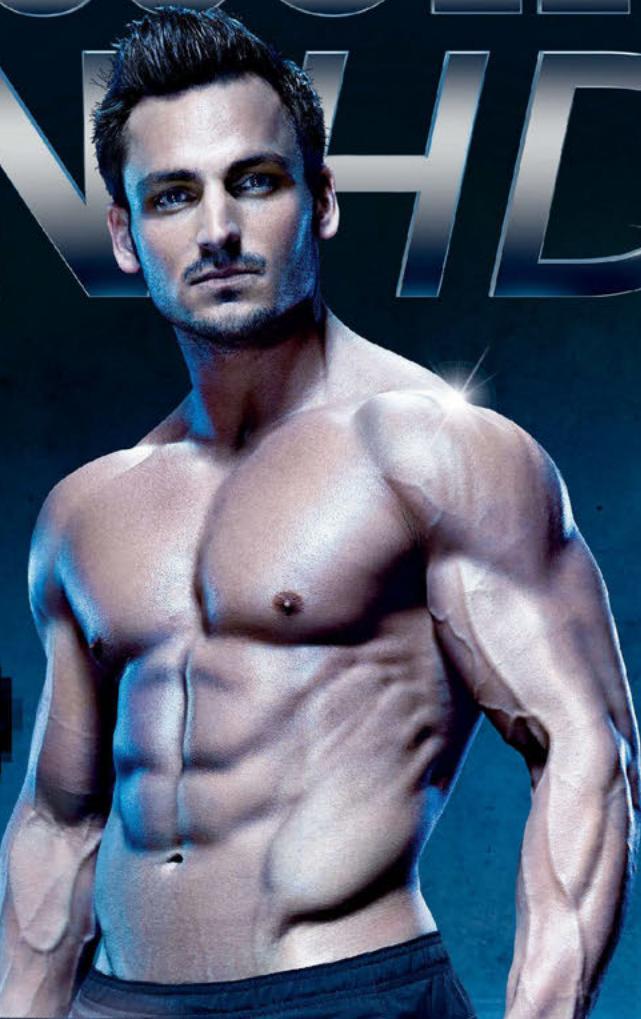


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PHOTOGRAPHS BY TOM MILES

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BIONIC MAN

Will Kane qualified for this year's CrossFit European Regionals with a broken leg.

BY JOHN PLUMMER

For somebody who only entered his first CrossFit competition last year, Will Kane has come a long way. He placed ninth at last year's European Regionals and qualified for the same event this year despite breaking his leg in the first event of the Open.

Kane, who trains at CrossFit Cheltenham and BullPen Fitness in Worcester, did rugby, martial arts and the 1,500 m before discovering the 'sport of fitness'.

M&F: How did you get into CrossFit?

Will Kane: One of my friends invited me to a class. I had played National League division two rugby and went along not expecting much but I enjoyed it, particularly the weightlifting. Later I started working at a functional fitness gym and then moved to CrossFit Cheltenham where I've been ever since.

Tell us about competing with a broken leg

I felt my tibia go on the clean and jerk in the first WOD. It was a fully open fracture for my WODs over the next four weeks. On a scale of being unbearable, it varied between an 8, 9 and 10.

How do you train for a sport that could throw anything at you?

You have to train for everything so my programme is incredibly varied. I try to keep my heart rate in a certain zone and my weightlifting is highly structured; I tend to work at percentages of my one-rep max and have regular deload weeks. It's less about doing particular exercises and more about training

to be strong enough to push through dark places.

How does your week break down?

On Monday I usually do a 30-minute conditioning workout, keeping my heart rate at 160 beats a minute. Tuesday might be a 12-minute conditioning workout and Wednesday is usually intervals of two minutes on, two minutes off, repeated five times. On Thursday I rest and go swimming. On Friday I do a 20-minute heart rate zone session and a 10-minute metabolic conditioner. I do two conditioning sessions on Saturdays and I completely rest on Sundays. I do weightlifting six days a week.

Do you ever do body part workouts?

Bodybuilding can actually complement CrossFit. I need to be a bit heavier so in my off-season I might follow a squat or deadlift programme to bulk up. But I always do compound exercises and don't use machines because they restrict my range of motion.

Does CrossFit cause injuries?

Yes, absolutely, if you do it badly. I have seen poor coaching and bad form in CrossFit gyms. But you would also get injured at rugby if you weren't taught proper tackling technique. If you do it right it's fine. I am a great believer in learning to move well and having functional movement screenings to check this.

What's your favourite exercise or WOD?

I'm known for being good at muscle-ups. For weightlifting

movements, overhead squats and chest-to-bar pull-ups.

What's a good a CrossFit WOD for all-round fitness?

Try Fight Gone Bad. It's five one-minute exercises performed consecutively. You do wall balls, sumo deadlift high-pulls, box jumps, push-press and a row. Then you rest for a minute and repeat three times.

How do you recover from such intense training?

Supplements help and if you learn to move well you shouldn't have to battle with tightness. I also have an ice bath every Wednesday, try to sleep well, swim and use the sauna once a week. A good physio also helps.

What do you eat in a typical day?

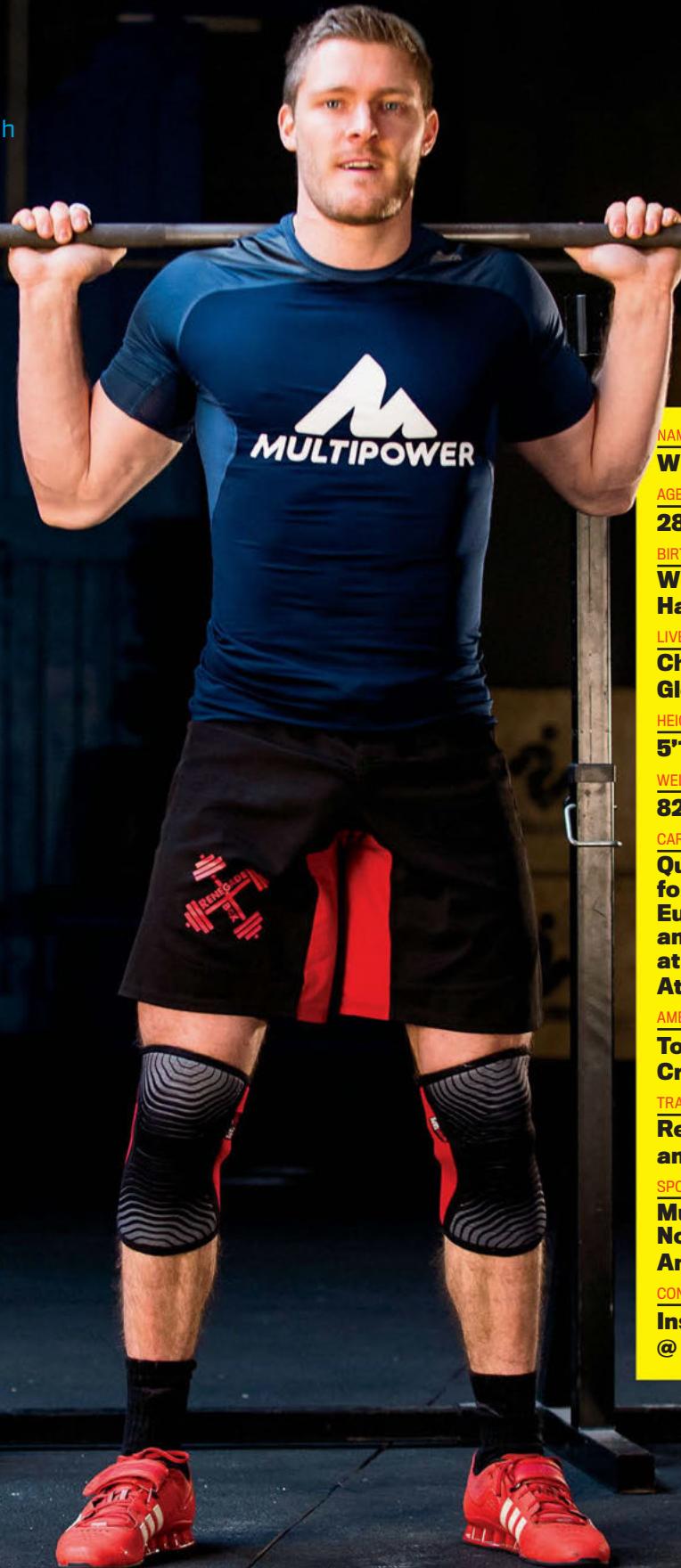
For breakfast I have an omelette made of eggs, sweet potato, courgette or carrot, bacon and mushrooms. I'm addicted to coffee so I have that too along with a pint of water with fish oils and vitamin D, and a calcium substitute. I have a paleo meal during the day as well as a snack consisting of a wrap or banana and nuts. In the evening I have steak, sweet potato and vegetables and a special concoction of a spoonful of oats, banana, honey and milk before bed. I also have pre-workouts and protein shakes before and after training.

Why is paleo so popular in CrossFit?

It's good for fat loss but I'm not 100% paleo. I think you need to get more calories in for energy,



It's about training to be strong enough to push through dark places"



NAME

Will Kane

AGE

28

BIRTHPLACE

**Winchester,
Hampshire**

LIVES

**Cheltenham,
Gloucestershire**

HEIGHT

5'10"

WEIGHT

82 Kg

CAREER HIGHLIGHT

**Qualifying twice
for the Crossfit
European Regionals
and placing second
at the 2015
Athlete Games**

AMBITION

**To compete at the
Crossfit Games**

TRAINING ADVICE

**Recover correctly
and move well**

SPONSORS

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Now, Renegade Box
And Rocktape**

CONTACT

**Instagram
@ Willkane17**

Figure Queen

Louise Rogers on training for professional figure contests.

BY JOHN PLUMMER

PHOTOGRAPH BY CHRISTOPHER BAILEY

Louise Rogers has been competing internationally as an IFBB professional for five years. During that time she has recorded two top three finishes and been invited to compete at the prestigious Arnold Classic Europe in Spain.

M&F: When did you start weight training?

Louise Rogers: I started training for bodybuilding when I was about 19. Prior to that I gave powerlifting a go. One day a colleague pointed out Monica Brant and said 'you could train for that look'. I remember thinking 'how on earth could I ever look like that?' but I found it so powerful and glamorous that I wanted to try.

Describe a typical training week?

Cardio AM 5 days a week

- Mon - Quadriceps
- Tues - Back
- Weds - Glutes
- Thurs - Rest
- Friday - Chest
- Sat - Hamstrings and glutes
- Sunday - Shoulders and arms.

How heavy do you lift?

Fairly heavy - but certainly not like I used to. I concentrate more on correct form these days. I usually work in the 10-12 rep range and don't often go down to 6-8 reps.

What's your favourite body part to train?

Legs and glutes. I have learnt to love training them in order to improve them.

Should women train differently to men?

Not necessarily. Some of the best development in my physique has been from training with men. I do think women need to prioritise certain areas, particularly for competition e.g. glutes. I don't know any men that go to the gym solely to train glutes.

Do you do steady state cardio or HIIT?

Steady state. I find HIIT too tiring when I am close to competing. But I do use it during the earlier stages of my preparation.

What do you eat in a typical day?

Breakfast: $\frac{6}{7}$ egg whites, 1-2 whole eggs, breakfast muffins and nut butters. Sometimes I also have oatmeal

Mid-morning: Protein shake and rice cakes

Lunch: White meat, rice or sweet potatoes and vegetables

Mid-afternoon: Rice cake and nuts

Post-workout: Protein shake

Dinner: Red or white meat, salad and rice

Before bed: Casein shake

I also cycle my fats and carbohydrates. During my show prep this season I had every Sunday completely off my diet during the final month before competitions. I started my preparation early so I was able to relax more at weekends.

What do you enjoy the most and least about competing?

I enjoy the challenge of getting my body into contest shape and watching it change. I dislike the final stages of prep when I start focusing on the actual competition. I get worried about the final bits coming together, such as tan, make up and hair because I rely on other people to help.

What's the most common question you get asked?

'How do you cope with the diet?' I reply that diet does become a bit repetitive but it's used more for function than pleasure. That being said I have eaten healthy all my life so it's no real chore. Keep in mind that I allow for treat meals and I've also become more creative with my meals so it's not really a big deal for me. These days there are so many diet foods available, which make the diet easier to manage. Gone are the days of boiled chicken and rice all day.

“

I enjoy the challenge of getting my body into contest shape and watching it change.”



NAME

Louise Rogers

AGE

33

PLACE OF BIRTH

Dorchester, Dorset

LIVES

Bournemouth

HEIGHT

169 cm

WEIGHT

126 lbs to 147 lbs, depending on how close to a contest

CAREER HIGHLIGHT

Winning my pro card at the IFBB World Championships. It was also great to make the podium at Bodypower in 2014.

AMBITION

To compete at the Olympia.

TRAINING ADVICE

Stay grounded and be consistent - there is no quick fix!

SPONSORS

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CONTACT

**Twitter
@louise_ifbbpro**

Student Body

Josh Bridgman is Britain's best-built student.

BY JOHN PLUMMER

PHOTOGRAPH BY CHRISTOPHER BAILEY

Josh Bridgman won this year's MASS Student Physique Competition, which was the culmination of a series of qualifying events at British universities. Bridgman, 22, is studying for a Masters degree in international management at Loughborough University.

M&F: How did you get into bodybuilding?

Josh Bridgman: I was always into sport and fitness until I got severely injured before I started university. I was a typical student during my first year: drinking, eating takeaways and not training. Then a friend said I looked ill and since that day I have been to the gym a minimum of 5 times a week.

What does it mean to win this title?

I was second last year so to win this year with a bigger audience and more competitors was a blessing.

Will you continue competing?

I am 100% going to continue bodybuilding. I am competing in a few UKBFF competitions this year to try to qualify for the Amateur Olympia in Liverpool and the UKBFF British finals.

Describe a typical training week.

A pre-contest training week looks like this:

Monday: AM HIIT and abs
PM Chest

Tuesday: Back

Weds: Legs

Thursday: AM LISS and abs PM Shoulders

Friday: AM HIIT PM: Arms

Saturday: Core

Sunday: Legs

Describe a favourite workout.

My favourite workout would be high volume leg day. I do:

Squats	8 x 8
Leg press	5 x 15
Extensions	5 x 12
Curls	5 x 12
Calf raises	5 x 15
Lunges	4 x 20

All the exercises, except the first and last, finish with a triple drop set.

High volume or high intensity?

I like a mix. It is good to keep changing to prevent boredom and plateaus. For cardio I also mix high intensity with low intensity steady state. For HIIT I usually use battle ropes or do bike sprints. For LISS I sit on a bike for 30-45 minutes. I avoid all cardio on leg and some back days because heavy compound lifts take it out of me.

What do you eat in a typical day?

When I am cutting, I have a 300-500 calorie deficit with calculated refeeds along the way. Each day I have the same breakfast consisting of 2 eggs, 3 slices of bacon, 60 g of oats with milk and 15 g of honey. For lunch and dinner I always eat sweet

potato, rice or whole wheat pasta and beef, chicken or salmon with broccoli, snap peas or green beans. I add seasonings and different homemade sauces. I usually have a banana and an avocado each day too.

What supplements do you have?

I only take things I don't get enough of in my diet: fish oils, multivitamins, whey, glutamine, BCAAs and creatine.

How popular is bodybuilding on campus?

Not very popular compared to some other sports but because Loughborough is a sports university there is a higher concentration of athletes and bodybuilders.

Is it difficult to gain mass on a student loan?

I don't think so, especially with new websites that sell meat in bulk. You can get 5 kg of chicken for £19, which is much cheaper than supermarkets. You can also bulk buy rice and pasta and I get my vegetables at a local farmers' market.

How can students follow healthier lifestyles?

By joining societies like MASS, going to events and seeing how healthier lifestyles works. Students - follow the fitness icons and you'll be able to learn, grow and live!

“

We train a lot
and burn a lot of
calories, so we
have to eat a lot.”



NAME

Josh Bridgman

AGE

22

BORN

Gloucester

LIVES

Loughborough

HEIGHT

186cm

WEIGHT

88kg

CAREER HIGHLIGHT

**Winning the MASS
Student Physique
Championships 2015**

AMBITION

**To push my body to its
limit, naturally.**

TRAINING ADVICE

**Stay consistent. Rome
wasn't built in a day
and nor will you build
your body overnight.**

CONTACT

**Facebook
@JoshBridgmanFitness**



Becki did more isolation exercises, such as cable crossovers, and fewer big compound exercises

Strength to Aesthetics

British bikini pro Michelle Brannan on how she streamlined Becki Barrett's physique

PHOTOGRAPHY BY SIMON HOWARD

THE CLIENT

Last year Becki Barrett, a competitive strongwoman, approached me for help during her winter off-season.

Becki had finished second in a competition called Bigger, Faster, Stronger in 2013 and had placed second in the novice category at

Britain's Most Powerful Woman so she was used to training for size and strength but she had decided to train for aesthetics instead and six months after we started working together she was on stage in a bikini.

Our aim was to streamline her physique, lift her glutes, isolate her shoulders and bring in her waist.

MY DIAGNOSIS:

TRAINING

Training for strength and aesthetics are entirely different. Previously Becki had allocated training days for key strength lifts, such as squats, deadlifts and overhead presses. On deadlift day, she would typically do 5 sets of 5 repetitions at 100 kg. I encouraged her to focus instead on isolating individual muscles and structured her programme around body parts rather than compound lifts. I prescribed a higher volume, lighter weight style of training rather than the low rep or one-rep max workouts she was used to. I encouraged her to

focus on form, engaging specific muscles and paying attention to time under tension. We devised a new programme based on six exercises per body part and 4 or 5 sets of 10-20 reps per exercise.

When she later decided to compete in bikini fitness, I removed squats and all other heavy leg exercises and replaced them with single leg isolation exercises and posterior chain work. A physique competitor needs to present a flowing structure and proportions and Becki's legs overpowered her body. We therefore focussed on shaping her hamstrings and glutes and removed exercises for her dominant quads.

A TYPICAL SPLIT WAS

Day 1: Hamstrings and glutes

Day 2: Shoulders

Day 3: Hamstrings and glutes

Day 4: Chest, back and arms

Day 5: Glutes and shoulders

HAMSTRING AND GLUTE WORKOUTS:

- Single leg press 5 x 20 (10 each leg)
- Stiff-legged barbell deadlift 5 x 15
- Leg curl machine 5 x 15
- Superset 5 x 20 dumbbell Romanian deadlifts (10 wide stance, 10 narrow stance) and 5 x 20 barbell lateral squats (10 on each side)
- 5 x 20 donkey kickbacks (10 on each leg)

Becki wasn't used to doing cardio but in the



Becki lost 10 kg and reduced her waist by seven inches in six months

run-up to her contest she did an hour a day, six days a week.

NUTRITION

Becki didn't have to pay much attention to diet during her strongwoman days but now she needed a good blend of nutrients and the right foods to burn fat.

Becki is an endomorph: she builds muscle easily but doesn't burn fat as quickly so we started with a low carbohydrate, high fat diet with a carbohydrate refeed day every two weeks.

We later switched to a ketogenic diet that contained high fat, moderate protein (low in bodybuilding terms) and low carbohydrates to encourage her body to burn fats rather than glucose for energy. We used ketosis as a short term dieting tool. I am a strong believer in

mixing things up and I rarely keep anyone on the same diet for longer than 8-12 weeks.

TYPICAL DIET

1 MEAL: Spinach omelette made with two whole eggs and 2 egg whites and 1 teaspoon of coconut oil. 1 serving of super-greens

2 MEAL: Grilled chicken breast, broccoli and a handful of walnuts

3 MEAL: Two hard-boiled eggs and a green salad

4 MEAL: Chicken stir-fry with green beans, mushrooms and olive oil

5 MEAL: Grilled salmon or lean steak, asparagus and a handful of almonds

SNACKS: Natural peanut butter or raw nuts

THE RESULTS

After six months of training, Becki lost 10 kg and reduced her waist by seven inches. It wasn't easy: she has a daughter and works full time.

The training was not what she was used to and the dietary discipline was tough but after she began seeing changes she started to enjoy the whole process.

After deadlifting quad bikes and lifting Atlas stones, Becki grew to like getting her hair and make up done and being a 'girly girl' on stage. She competed in her first bikini fitness contest in April and is planning her next competition.

ABOUT MICHELLE

Michelle Brannan is an IFBB bikini pro. She also runs a coaching team called Showgirl Fitness and the online training subscription resource BodySculpt Pro. michellebrannan.com.



Pre-Workout Primer

Boost your gym sessions with citrulline malate

CITRULLINE MALATE SUPPLEMENTS contain a combination of the non-essential amino acid L-citrulline and the organic compound malate, typically in a 1:1 ratio.

Their rise in popularity amongst bodybuilders and weightlifters is partly due to the results of a study in 2010 by Joaquin Perez-Guisado and Philip Jakeman from the University of Córdoba in Spain.

They found citrulline malate supplementation increased high-intensity resistance performance and reduced muscle soreness. The performance benefits are suggested to be due to an increase in blood L-arginine, which subsequently increases nitric oxide levels, thus improving blood flow to the muscles.

This increased blood flow may enhance nutrient delivery to the muscles and also accelerate the removal of waste products such as ammonia and lactate.

Now a second study has investigated the effects of citrulline malate supplementation on resistance exercise performance, this time in a group of weightlifters, and the results have been published in the Journal of Strength and Conditioning Research.

MAIN FINDINGS

► Weightlifters receiving citrulline malate

supplements completed significantly more repetitions on the leg press, hack squat, and leg extension machines, compared with the placebo.

► No differences were observed for blood lactate, heart rate or blood pressure between the citrulline malate and placebo supplements.

SIGNIFICANT METHODOLOGY

Twelve highly trained male weightlifters completed the study, which comprised of two workouts involving repeated bouts of multiple lower-body resistance exercise (leg press, hack squat, and leg extension machines). The weightlifters consumed either a commercially available citrulline malate (8 grams) or a placebo supplement 60 minutes before each workout. Blood lactate, heart rate and blood pressure were assessed before and after training.

TAKE HOME MESSAGE

This study provides further evidence that the intake of citrulline malate before resistance exercise may boost

performance. This has practical significance for weight trainers. It appears a single dose of 4 - 8 grams of citrulline malate 60 minutes before training is optimal.

Side effects of citrulline malate supplementation are uncommon but some people may experience slight stomach discomfort. It is important to purchase all supplements from a

reputable manufacture as this not only ensures the quality of the supplement but also reduces the risk of contamination.

REFERENCE & STUDY LINK

Wax B, Kavazis AN, Weldon K, Sperlik J (2015) Effects of supplemental citrulline malate ingestion during repeated bouts of lower body exercise in advanced weightlifters. *Journal of Strength and Conditioning Research* 29(3):786-792



Salt and Performance

Combating fluid and electrolyte loss during exercise

'HOW SALTY IS YOUR SWEAT?'

may seem a strange question but it is an important issue for gym goers.

Sweat is largely comprised of fluid and electrolytes, including sodium chloride (salt), potassium and magnesium. Levels vary between individuals.

Failure to replace the fluid and salt lost in sweat during exercise may compromise performance and health. Sweat rates can reach as high as three litres per hour and therefore the intake of fluids and electrolytes is vital.

Consuming electrolyte sports drinks replaces some of the salt lost in sweat but the amount of salt in the majority of sports drinks is lower than that in sweat. Consequently, the intake of additional salt supplements during exercise may be advantageous, especially for individuals with naturally salty sweat.

Most scientific studies have shown salt supplementation improves performance in laboratory-based exercise but not in real-life competitive endurance events. However, researchers in Spain recently conducted a more tightly controlled study and found that salt supplementation improved performance in a half-ironman event.

MAIN FINDINGS

- ▶ Salt supplementation significantly reduced the average amount of time taken to complete a half-ironman when compared to placebo supplementation; 307 min compared to 333 min respectively. However, salt supplementation did not alter measures of strength after the race.
- ▶ Blood concentrations of salt and chloride were significantly higher after the half-ironman in those that had received the salt compared to placebo

supplements. No differences in sweat composition were found.

SIGNIFICANT METHODOLOGY

Twenty-six experienced triathletes completed the study. They were allocated to either a salt group (providing a total of 113 mmol of sodium and 112 mmol of chloride) or the control group (cellulose). The groups were matched for age, anthropometric data and training status. Supplements (salt or cellulose) were consumed before and during a half-ironman event, which consisted of a swim, cycle and run. Strength tests and blood sample collections were performed before and after the half-ironman event. Sweat samples were also collected during the event.

TAKE HOME MESSAGE

This is one of few studies to demonstrate that salt supplementation improves performance in a real-life competitive endurance event, suggesting a potential benefit for endurance athletes. This is particularly relevant during the hot summer months. Replacing salt is critical for the body to retain fluid and remain hydrated. It is also crucial for cooling processes (thermoregulation). It can be achieved by consuming electrolyte sports drinks and/or using salt supplements – but another practical option is to add more salt to food.

If you're not keen on salt supplements, or they cause experience gastrointestinal discomfort, electrolyte sports drinks and/or gels may be a better option.

An increasing number of organisations also offer the chance to get your sweat composition analysed to determine whether you are a low or high salt sweater.

REFERENCE

Del Coso J, González-Millán C, Salinero JJ, Abián-Vicén J, Areces F, Lledó M, Lara B, Gallo-Salazar C, Ruiz-Vicente D (2015) Effects of oral salt supplementation on physical performance during a half-ironman: A randomized controlled trial. Scandinavian Journal of Medicine & Science in Sports [Epub ahead of print]





Natalie Lewis

AGE: 23

HEIGHT: 5ft 3 / 160 cm

WEIGHT: 112 lbs / 51 kg

FITNESS BACKGROUND:

At first I was only interested in cardio and being toned but when I decided to do bikini fitness I spent the next two and half years dedicating my life to it.

BODY PART THAT GETS

MOST ATTENTION: Glutes.

It's also one of my favourite body parts to train.

FAVOURITE WAY TO RELAX:

Having a steaming hot shower, putting on some comfies and chilling on the sofa with good food and a movie.

HIDDEN TALENT: I have been known to rustle up some pretty amazing cake creations.

SPONSORS: GYMversus and Efectiv Nutrition

SOCIAL MEDIA: On Twitter @NLewis_x and Instagram @misslewis_x

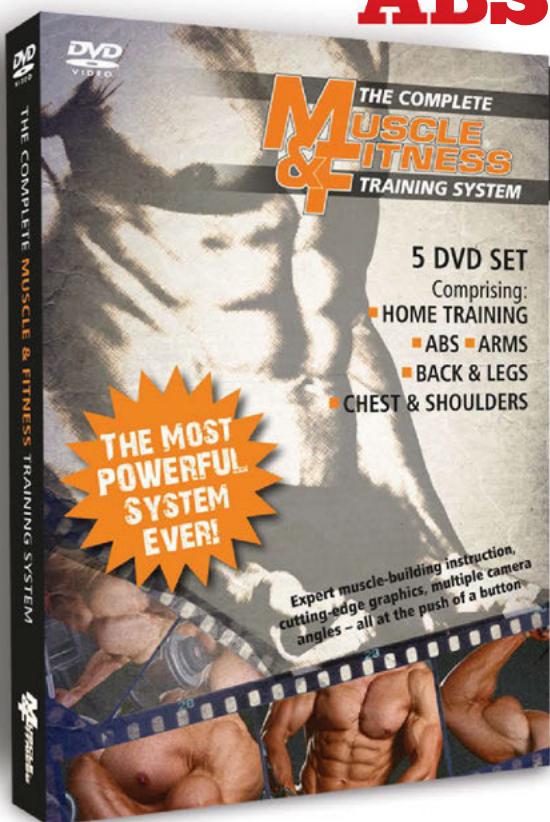
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Do It All

You're supposed to find one thing you like and stick with it. But what if you like everything? **BY MARK BARROSO**

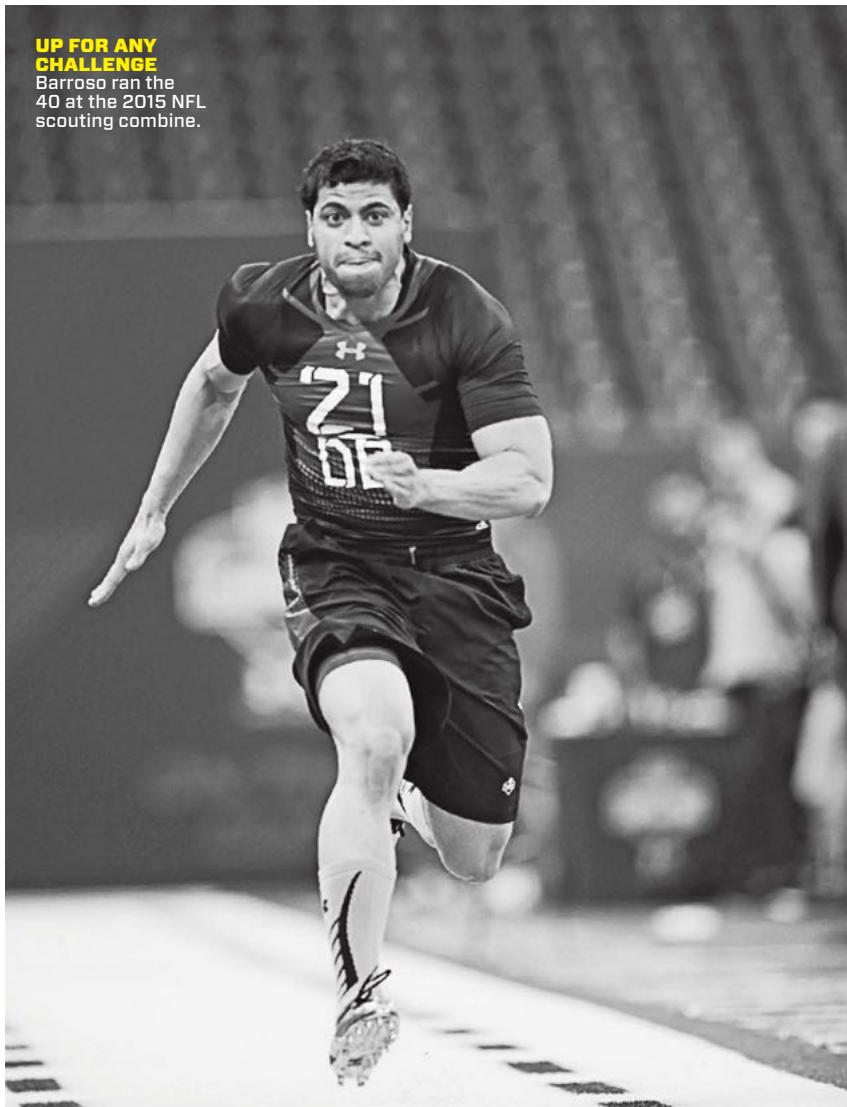
IT'S HARD TO count how many times this magazine has encouraged its readers to home in on what they really enjoy—be it bodybuilding, powerlifting, CrossFit, or anything in between—and attack it full bore. As an M&F editor, I've felt some pressure to heed that advice, but being the youngest staffer (I'm 24), I can't say that I'm finished exploring the fitness world to know what I definitively love best.

In just the past year, I've tried spinning, rowing, running, trampoline fitness, rock climbing, obstacle race training, boot camp, CrossFit, aerial yoga, and even something called Broga. I completed the *UFC Fit* DVD series (and got pretty ripped), ran two Spartan Races, attended Mark Rippetoe's Starting Strength Seminar, and got to run the 40-yard dash and do the vertical jump at the National Football League tryouts. All the while, I've continued to use powerlifting and bodybuilding as a default training method when I'm in between fitness adventures. I even have some decent PRs for a guy who refuses to specialize: a 193 kg deadlift (one rep), 136 kg squat (two reps), and 129 kg bench press (two reps).

My journey began in high school, where I learned a basic meathead weight-training protocol from a gym teacher named Mr. B. Even though these quick sessions were right in the middle of the school day, I attacked them to the point where I'd have to lie down after class. To my surprise, I made gains that stuck with me. The lasting lesson wasn't to just train like a meathead but to also train balls-to-the-wall with whatever I was doing.

With that lesson in hand, I've made gains doing something as seemingly

UP FOR ANY CHALLENGE
Barroso ran the 40 at the 2015 NFL scouting combine.



innocuous as body-weight exercise DVDs and something as serious as a specialized powerlifting programme. I've stayed healthy, fit, and strong not because of a particular training method but simply because I give everything a chance to work, however sceptical I might be initially.

Remember that the next time you

hear a programme being touted as superior to all others. If you're willing to work hard, you'll learn that every programme works.

MARK BARROSO

is an M&F editor.
Follow him on Twitter:
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